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TECHNICAL REPORT
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SUMMARY

A new method is derived for solving the attached oblique shock-wave system for surfaces at various angles of attack, sweep, and dihedral in any real gas in equilibrium. Results are tabulated for the following ranges: angle of attack, 0° to 65°; angle of sweep, 0° to 75°; angle of dihedral, 0° to 30°; Mach number, 3 to 30; and "effective specific-heat ratio" parameter, 1.10 to 1.67. Both the method and tabulated solutions are easily adaptable to flight in any gas or in the atmosphere of any planet. An illustrative example is presented based on the ARDC 1956 model atmosphere.

INTRODUCTION

The design of hypersonic vehicles requires a knowledge of the flow fields over the various lifting and control surfaces of the vehicle as it passes through the atmosphere. One of the major problem areas is that of heat transfer to the leading edges of such surfaces, and it has been shown that this problem may be alleviated by a judicious choice of sweep and/or dihedral. If a wing panel is considered as a segment of a wing with an infinite span, then the solution to the infinite-wing flow field will be applicable in those regions of the finite wing for which the forward Mach cone does not include any singularities, such as the vertex of a delta wing, a wing-body junction, and so forth. Consequently, solutions to the infinite-wing problem are of great value since they not only give the correct solutions outside the rearward Mach cone from a singularity but also act as known boundary conditions for the solutions on the wing inside the rearward Mach cone from such a singularity. Furthermore, even though leading edges will probably be fairly blunt, solutions to the problem of sharp leading edges are still useful since the inviscid flow will asymptotically approach the sharp-leading-edge flow and also the effect of blunting on the inviscid flow field should be principally confined to a region extending rearward not too many leading-edge diameters. In addition, the pressures induced by blunting become less significant as the angle of attack increases. (See refs. 1 and 2.)

Since in all cases the flow field is bounded by a shock system consisting of either normal or oblique shock waves, the properties of flows passing through such shock waves must be known. References 3 to 6 present studies of normal and oblique shock solutions (for wings without dihedral) for atmospheric flight at certain specific altitudes. The computations of references 3 and 4 are based on the ARDC model atmosphere of reference 7 whereas those of references 5 and 6 are based on the model atmosphere of reference 8. Since data obtained subsequent to the publication of reference 8 have shown the model atmosphere of that reference to be seriously in error, the work of references 5 and 6 has already become somewhat obsolete. As new data on the atmosphere are gathered, it is possible that the ARDC model atmosphere, as well as references 3 and 4 which are based on it, will in turn face obsolescence.

The work reported in the present paper was undertaken to provide oblique shock solutions for sharp-leading-edge infinite wings, with and without sweep and/or dihedral, at angles of attack. These solutions are not only applicable to tunnel testing in helium or air but are also applicable to flight in any atmosphere since results are tabulated in such a form that future revisions of the atmospheric model will not cause obsolescence. The investigation reported herein was performed at the gas dynamics laboratory of the Langley Research Center.

SYMBOLS

The area OFK of figure 1(a) is part of a semi-infinite skewed plane which passes through the origin and which intersects the plane $z=0$ along OJ, the plane $y=0$ along OK, and the plane $x=H$ along KFJ. When this finite area OFK is considered as a wing panel which may have both sweep and dihedral, the defining geometry is conventionally referenced by employing the following planes: (a) plane IMHGJ which is perpendicular to the ridge line OIK, and (b) plane YOMEF which contains the Y-axis and the leading edge

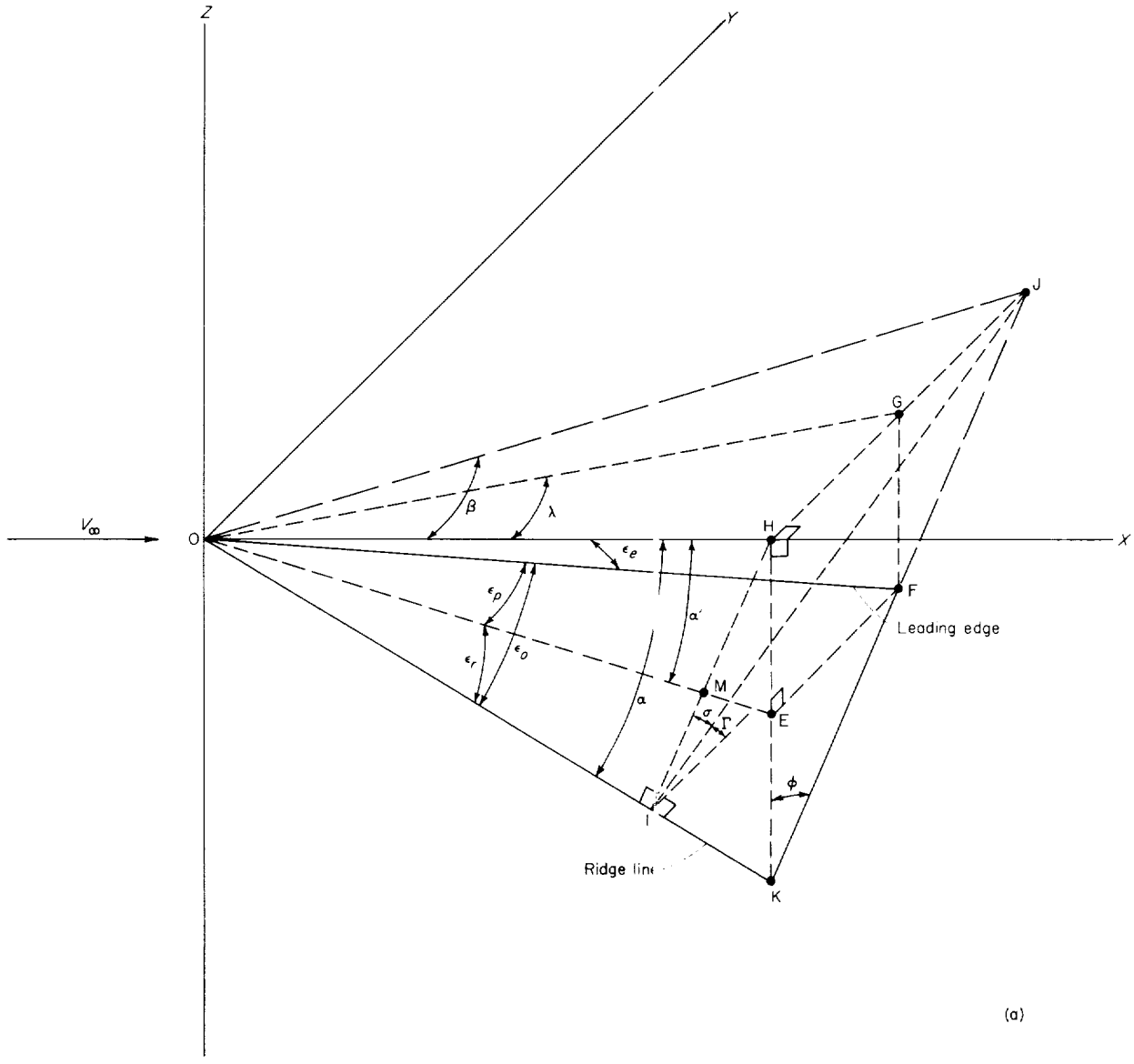


FIGURE 1.—Diagrams of various geometric components.

OF. The projection of the leading edge OF on the plane $y=0$ is OME and on the plane $z=0$ is OG. In figure 1(b) another view shows the plane HOT containing the X-axis and the arbitrary line OT which is selected to be normal both to the leading edge OF and to the shock attached to OF. The line OU is the intersection of the plane HOT with the plane of the wing panel.

a speed of sound

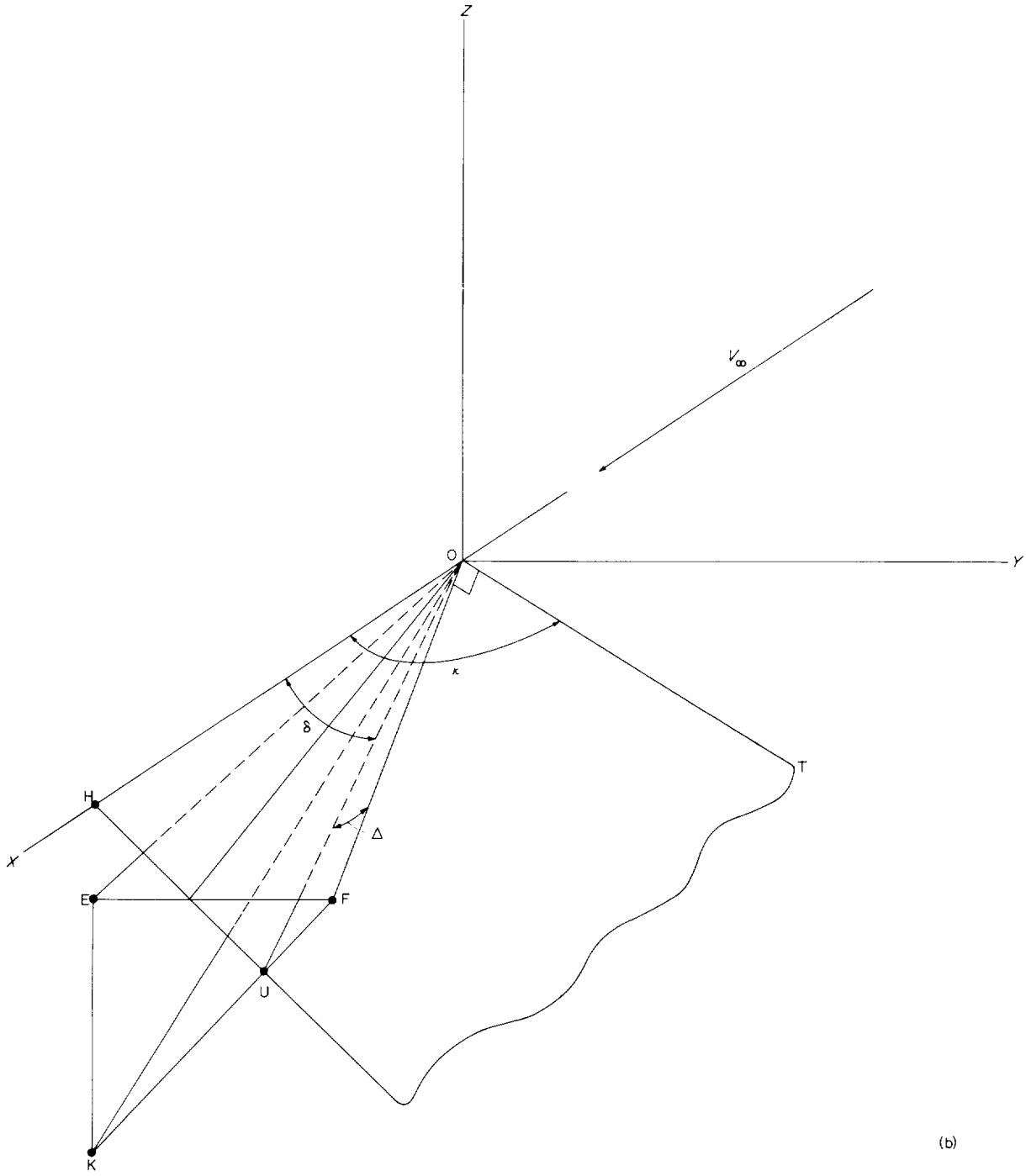


FIGURE 1.—Concluded.

$C_1, C_2, \ldots C_7$ parameters defined in equation (14)

h altitude

M_∞ free-stream Mach number

M_N component of free-stream Mach number normal to leading edge, $M_\infty \sin \epsilon_e$

M_n component of free-stream Mach number normal to shock wave, $-M_\infty \cos \kappa$

m Y-axis directional number of line OT (see eq. (2))

n Z-axis directional number of line OT (see eq. (2))

p static pressure

R gas constant

T absolute temperature

u_n velocity component of free stream normal to shock wave, $-V_\infty \cos \kappa$

u_p velocity component of free stream parallel to shock wave, $V_\infty \sin \kappa$

V total velocity

$V_{N,\infty}$ velocity component of free stream normal to leading edge, $V_\infty \sin \epsilon_e$

V_P velocity component of free stream parallel to leading edge, $V_\infty \cos \epsilon_e$

X coordinate axis parallel to free-stream direction

Y,Z coordinate axes perpendicular to free-stream direction

x,y,z distance along coordinate axes X, Y, and Z, respectively

α angle of attack of ridge line OK

α' angle of attack of plane OEF containing leading edge, angle HOE

β angle between X-axis and line of intersection OJ of extended wing panel and plane $z=0$, angle HOJ

Γ dihedral angle in plane normal to ridge line, complement of σ

γ isentropic exponent, $\left[\frac{d(\log p)}{d(\log \rho)}\right]_{constant\ entropy}$; equal to ratio of specific heats for a perfect gas

γ_e effective value of γ for flow across shock waves, $2\frac{(1/M_{n,\infty})^2-1}{(\rho_\infty/\rho_b)-1}-1$

Δ angle between leading edge OF and deflected streamline

δ total flow deflection across shock wave

δ_N flow deflection across shock wave of component of flow normal to leading edge

ϵ_e angle between leading edge OF and free-stream direction (X-axis), effective semiapex angle, angle HOF

ϵ_o angle between leading edge OF and ridge line OK, angle KOF

ϵ_p angle between leading edge OF and OE, plan-form semiapex angle EOF

ϵ_r angle between ridge line OK and OE, angle EOK

θ acute angle between shock wave (assumed to be weak shock family) and free-stream direction

θ_N acute angle in crossflow plane between shock wave and component of free-stream velocity normal to leading edge

θ_s acute angle between strong shock wave and free-stream direction

κ angle between X-axis and outward normal to attached shock wave

λ angle between X-axis and projection of leading edge in plane $z=0$, angle HOG

ρ density

σ angle between wing panel and plane $y=0$ measured in plane normal to ridge line, angle HIJ

ϕ angle between wing panel and plane $y=0$ measured in plane normal to X-axis, angle HKJ

Subscripts:

b condition behind shock wave

∞ free-stream conditions

THEORY

The procedure described herein for obtaining the solution for the attached oblique shock-wave system may be outlined as follows: An arbitrary line OT (fig. 1(b)) is assumed to be normal both to the wing-panel leading edge OF, which is

specified, and to the as-yet-unknown shock wave attached to the leading edge. Application of the conditions of tangent flow to the wing panel plus the relationship between the angle of the shock-wave normal and the corresponding shock-wave flow-deflection angle permit the orientation ($\cos \kappa$) of the line OT to be found as a function of the effective value of the specific-heat ratio γ_e for a given value of free-stream Mach number M_∞. The correct value of $\cos \kappa$ and γ_e for imperfect gases with variable specific heats, dissociation, and/or ionization is then determined by a graphical method.

An alternate procedure which breaks the flow into components parallel and normal to the leading edge is outlined in appendix A. The reasons for the superiority of the present method over the alternate procedure are also discussed in appendix A.

Since most of the intermediate steps pertinent to the geometry and algebra of the solution will be omitted, only the definitive relations for the angles involved are given. The primary variables are α, ϵ_p, and σ; the relations are thus expressed as functions of these angles. The angle σ is employed rather than its complement Γ in these relations because σ is more convenient for vector analysis; however, the results are tabulated in terms of the conventional dihedral angle Γ. The definitive relations are as follows:

$$\left.\begin{aligned}
&\sin \epsilon_r = \frac{\tan \epsilon_p}{\tan \sigma} \\
&\sin \epsilon_o = \frac{\sin \epsilon_p}{\sin \sigma} \\
&\cos \epsilon_e = \cos \alpha' \cos \epsilon_p \\
&\qquad = \frac{\cos \alpha}{\tan \sigma} \sqrt{\frac{\cos^2 \epsilon_p}{\cos^2 \sigma} - 1} + \frac{\sin \alpha \sin \epsilon_p}{\tan \sigma} \\
&\cos \alpha' = \cos (\alpha - \epsilon_r) \\
&\qquad = \cos \alpha \sqrt{1 - \frac{\tan^2 \epsilon_p}{\tan^2 \sigma}} + \frac{\sin \alpha \tan \epsilon_p}{\tan \sigma} \\
&\tan \beta = \tan \sigma \sin \alpha \\
&\tan \phi = \tan \sigma \cos \alpha \\
&\tan \lambda = \frac{\tan \sigma}{\sin \alpha + \cos \alpha \sqrt{\frac{\tan^2 \sigma}{\tan^2 \epsilon_p} - 1}}
\end{aligned}\right\} \qquad (1)$$

The flow field of the shock wave attached to the leading edge in the region bounded by the wing-panel surface, the shock wave, and the Mach cone from the origin may be determined in the manner described in the following paragraphs.

Let the line OT be chosen normal to the leading edge OF and be defined by the equation (where m and n are directional numbers)

$$\frac{x}{-1} = \frac{y}{m} = \frac{z}{n} \qquad (2)$$

Since the equation of the leading edge OF is

$$\frac{x}{1} = \frac{y}{\tan \lambda} = \frac{z}{-\tan \alpha'} \qquad (3)$$

the condition of orthogonality applied to equations (2) and (3) yields

$$m = \cot \lambda (1 + n \tan \alpha') \qquad (4)$$

If κ is defined as the directional cosine between OT and the X-axis, then

$$\cos \kappa = \frac{-1}{\sqrt{1 + m^2 + n^2}} \qquad (5)$$

Another relation required for the solution may be obtained from physical arguments as follows. Since the pressure forces act normal to the shock wave, any change (perturbation) to the velocity vector caused by the shock wave must be parallel to the normal to the shock wave. Therefore, after the shock wave the net or resultant velocity vector, which is the vector sum of the free-stream velocity and the perturbation velocity vectors, must lie in planes parallel to those containing the free-stream velocity vector (X-axis) and the normal to the shock wave. If this resultant velocity is to have no component normal to the wing-panel it must be parallel to some line in the wing-panel plane. Now let line OT be selected as normal to both the shock wave and the leading edge. Then, in order to satisfy all the aforementioned conditions, the resultant velocity vector must be parallel to the line OU which is the intersection of the plane HOT (containing the free-stream velocity and the shock-wave normal) and the plane OKF (wing-panel plane).

The equation of plane HOT

$$-ny + mz = 0 \qquad (6)$$

combined with that for plane OKF

$$x - (\cot \beta) y + (\cot \alpha) z = 0 \qquad (7)$$

yields the following equation defining OU:

$$\frac{x}{m\cot\beta-n\cot\alpha}=\frac{y}{m}=\frac{z}{n} \tag{8}$$

The deflection δ of the flow by the shock wave is the X-axis directional cosine of OU and is given by the following equation:

$$\delta=\cos^{-1}\left[\frac{m\cot\beta-n\cot\alpha}{\sqrt{m^2+n^2+(m\cot\beta-n\cot\alpha)^2}}\right] \tag{9}$$

The relation between the angles κ and δ is shown in appendix B to be

$$\frac{\tan\kappa}{\tan\delta}=1+\frac{\frac{1+\gamma_e}{2}}{\frac{1}{M_\infty^2}-\cos^2\kappa} \tag{10}$$

where

$$\gamma_e\equiv 2\frac{(1/M_{n,\infty})^2-1}{\left(\frac{\rho_\infty}{\rho_b}-1\right)}-1 \tag{11}$$

and

$$M_n\equiv -M_\infty\cos\kappa \tag{12}$$

An effective value of the isentropic exponent γ_e has been used to describe the density change across the shock wave in order to permit computations useful for imperfect gases in equilibrium. Equation (11) is also the form in which the perfect-gas Rankine-Hugoniot shock-wave equations would appear if the ratio of specific heats γ were chosen as the dependent variable and a function of $M_{n,\infty}$ and ρ_∞/ρ_b. However, it should be emphasized that the free-stream Mach number and free-stream velocity of sound are not determined by γ_e except for a perfect gas where $\gamma_e=\gamma_\infty$.

Equations (4), (5), (9), (10), and (11) may be treated as a set of five simultaneous equations for the unknowns m, n, κ, δ, and γ_e. These equations are combined to yield a cubic equation for n in terms of γ_e. The following equation is such a cubic equation which has been cross multiplied to eliminate all trigonometric functions in the denominators of the various coefficients so as to eliminate infinities and thereby facilitate the electronic computing:

$$C_1C_2n^3+(C_2C_3-C_1C_4)n^2+(C_2C_5-C_3C_4)n+(C_6-C_4C_7)=0 \tag{13}$$

where

$$\left.\begin{aligned}
C_1&=\sin^2\epsilon_p-2\sin\epsilon_p\cos\sigma\sqrt{\sin^2\sigma-\sin^2\epsilon_p}(\sin\alpha\cos\alpha)+[\sin^2\sigma(1+\sin^2\epsilon_p)-2\sin^2\epsilon_p]\sin^2\alpha\\
C_2&=\sin\epsilon_p\cos\alpha-\sin\alpha\cos\sigma\sqrt{\sin^2\sigma-\sin^2\epsilon_p}\\
C_3&=\sin 2\alpha(\sin^2\sigma-\sin^2\epsilon_p-\sin^2\epsilon_p\cos^2\sigma)-2\cos 2\alpha\sin\epsilon_p\cos\sigma\sqrt{\sin^2\sigma-\sin^2\epsilon_p}\\
C_4&=\sin\alpha\sin\epsilon_p\left(1+\frac{\gamma_e+1}{2}M_\infty^2\sin^2\sigma\right)+\cos\alpha\cos\sigma\sqrt{\sin^2\sigma-\sin^2\epsilon_p}\\
C_5&=C_7-M_\infty^2\sin^2\sigma\sin^2\epsilon_p\\
C_6&=\left(\sin\alpha\sin\epsilon_p+\cos\alpha\cos\sigma\sqrt{\sin^2\sigma-\sin^2\epsilon_p}\right)M_\infty^2\sin^2\sigma\sin^2\epsilon_p\\
C_7&=\sin^2\sigma(2-\cos^2\epsilon_p)-C_1
\end{aligned}\right\} \tag{14}$$

The roots of equation (13) are the familiar ones of the simple oblique shock equations. If all the roots are real, the three shock systems thereby determined correspond to (1) the weak oblique shock, (2) the strong oblique shock, and (3) the "negative oblique shock" or zero-thickness expansion wave through which the pressure decreases. This last solution must be discarded because of the entropy decrease associated with it. If the remaining two roots are equal, the shock is that giving maximum deflection (detachment point); if they are imaginary, then the shock system cannot be attached to the leading edge.

The substitution of the solutions of equation (13) into the pertinent equations of the simultaneous set will determine m, n, κ, and δ as functions of α, ϵ_p, σ, M_∞, and γ_e. However, in order for this procedure to be applicable to real gases where γ_e is not a constant, the appropriate value of γ_e must be determined.

There is no simple closed-form relation to describe the variation of γ_e for air or other gases which may ionize and dissociate in passing through shock waves. However, plots of γ_e against M_n may be obtained for any gas including atmospheric air at various altitudes by substituting the results of normal shock computations into equation (11). Such graphic plots of the functional relationships between γ_e and M_n will be called basic plots hereinafter.

Figure 2 is such a basic plot which was obtained from the data of references 4 and 5 for values of M_n greater than approximately 7 (the lowest value of M_n tabulated). These references treat the air ahead of the shock as an ideal gas free of argon with $\gamma_\infty = 1.40$. The altitudes at which computations of reference 4 were made are those bounding the isothermal layers of the atmosphere. Although reference 5 used an obsolete atmosphere (ref. 8), the discrepancies are negligible at 0 and 120,000 feet so that data from this reference are also included in the plot. For $M_n < 7$, values were computed, after first solving the pertinent normal shock equations, for these altitudes by using the ambient conditions of reference 7 and the properties of argon-free air behind the shock wave from reference 9.

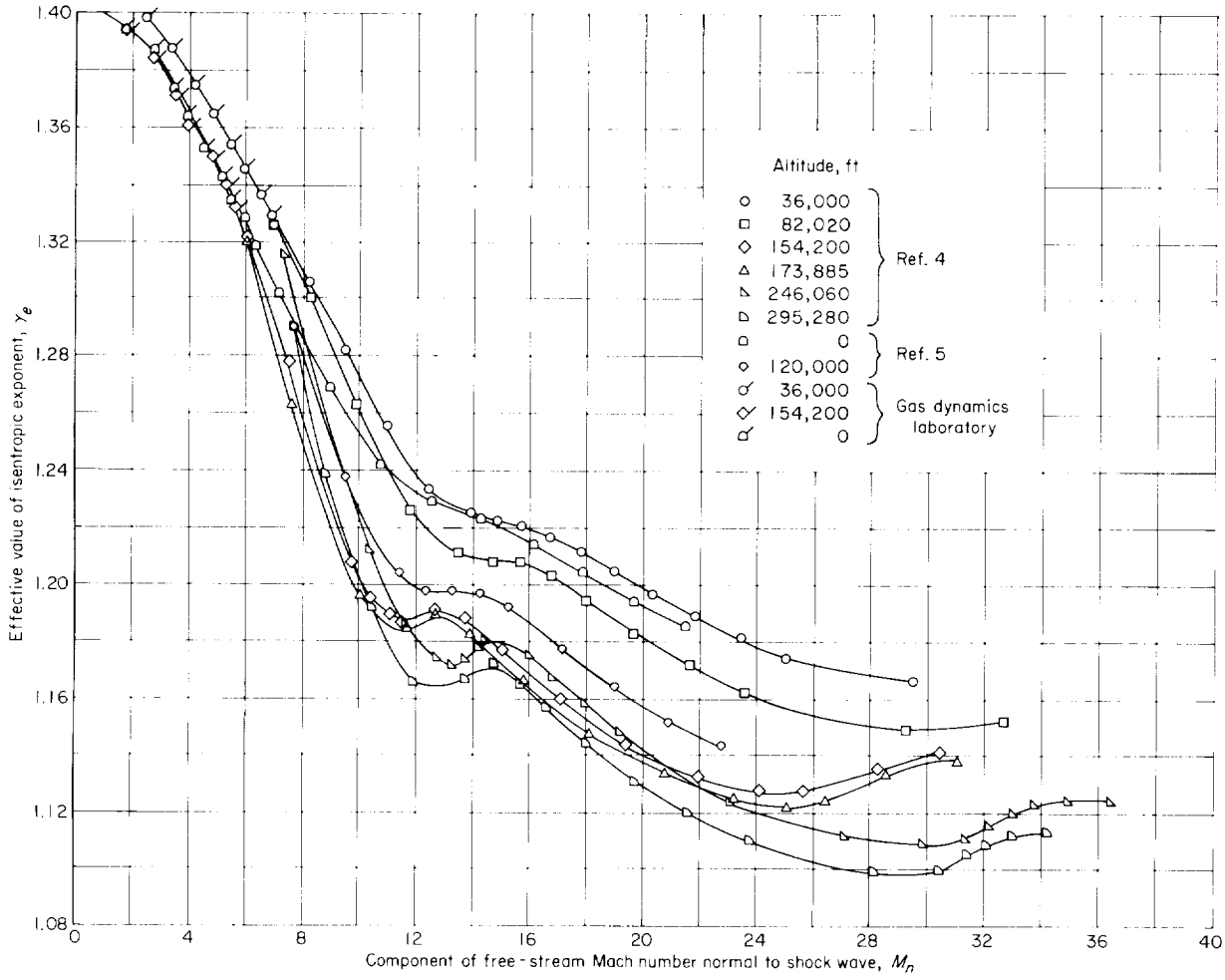


FIGURE 2.—Basic plot of γ_e against M_n for various altitudes. An argon-free atmosphere is assumed ($\gamma_\infty = 1.40$).

It is desirable to use the basic plots as the last step in the solution because new knowledge of the atmospheric conditions at various altitudes is continually being added. Consequently, the changes resulting from this new information will shift only the basic plots and leave the solution of equation (13) and the simultaneous set invariant. Thus, solutions incorporating the latest altitude revisions may be easily obtained. Furthermore, solutions for gases with various values of γ_e may also be obtained after constructing the appropriate basic plot. The correct values of m, n, κ, δ, and γ_e may then be determined (in the case of atmospheric flight) for any desired values of α, ϵ_p, σ, M_∞, and altitude by plotting the value of γ_e against $M_n=-M_\infty \cos \kappa$ as determined from the simultaneous set and equation (13) on the aforementioned basic plots. The intersection of the curve of the solution to the simultaneous set with the basic curve for a given altitude determines the correct values of γ_e and M_n for that altitude. The other flow parameters behind the shock may then be evaluated from the following equations:

$$\frac{p_b}{p_\infty}=1+\frac{M_n^2-1}{\frac{\gamma_e+1}{2}}\left(\frac{\rho_\infty u_\infty^2}{p_\infty M_\infty^2}\right) \tag{15}$$

$$\frac{\rho_\infty}{\rho_b}=1+\frac{\frac{1}{M_n^2}-1}{\frac{\gamma_e+1}{2}} \tag{16}$$

$$\frac{V_b}{V_\infty}=\frac{1}{\cos \delta}\left[1+\left(\frac{\rho_\infty}{\rho_b}-1\right)\cos^2 \kappa\right] \tag{17}$$

The velocity of sound for an equilibrium gas is given by the equation

$$a^2=\left(\frac{\partial p}{\partial \rho}\right)_{constant\ entropy} \tag{18}$$

Since γ is defined as

$$\gamma \equiv \left[\frac{d(\log p)}{d(\log \rho)}\right]_{constant\ entropy} \tag{19}$$

it follows that $a_\infty^2=\frac{\gamma_\infty p_\infty}{\rho_\infty}$ and the term in the parentheses of equation (15) reduces to γ_∞.

For imperfect gases the temperature and velocity of sound behind the shock wave must be located on a Mollier chart such as that given in reference 5. The deflection angle δ may be found from equation (10) or by interpolation between tabulated values.

Although the nongeometric parameters M_∞ and γ_e are defined by $M_\infty \equiv V_\infty/a_\infty$ and equation (11), any consistent set can be used. For example, the speed-ratio parameter $\tilde{M}_\infty \equiv \frac{V}{V_{satellite}}$ and the appropriate revised basic plots of $\tilde{\gamma}_e$ against $\tilde{M}_{n,\infty}$ could be substituted to yield valid solutions. Of course, in this case, the parameter $\tilde{\gamma}_e$ would no longer be simply related to any ratio of specific heats (of an ideal gas).

RESULTS AND DISCUSSION

Solutions to equation (13) obtained with an IBM 704 electronic data processing machine are tabulated in tables I and II for $3 \leqq M_\infty \leqq 30$ with $1.10 \leqq \gamma_e \leqq 1.67$. Table I is to be used for unswept leading edges (two-dimensional oblique shocks) and table II for swept leading edges (three-dimensional oblique shocks). Values of $\epsilon_p=75°$, 60°, 45°, 30°, and 15° with $\sigma=90°$, 85°, 80°, 70°, and 60° ($\Gamma=0°$, 5°, 10°, 20°, and 30°) are considered in table II which is reproduced directly from the sheets printed by the electronic data processing machine. Since $\sin \epsilon_r=\frac{\tan \epsilon_p}{\tan \sigma}$, it is obvious that $\sigma \geqq \epsilon_p$. The range of α varies from ° to 65° in 1° increments in table I and from 2° to 42° (unless detachment occurs) in 2° increments in table II. The case $\alpha=0°$ represents no perturbation to the free-stream condition.

Cases in which $\sigma=90°$ are applicable to flat-plate swept delta wings since $\epsilon_r \equiv 0°$ for all such cases except the indeterminate case $\sigma=\epsilon_p=90°$. In this exception ϵ_r may mathematically have any value from 0° to 90°; however, the physically useful two-dimensional unyawed oblique shock solution ($\epsilon_r=0°$) is obtained by treating the limiting process for evaluating $\frac{\tan \epsilon_p}{\tan \sigma}$ as the limiting solution of a family for which $\sigma=90°$ (i.e., $\sigma=90°$ and $\epsilon_r \to 90°$).

For each angle of attack α there is listed in table II the associated values of ϵ_e and δ_N which are, respectively, the complement of the effective sweep of the leading edge and the crossflow deflection angle for the normal velocity component $V_{N,\infty}$. (See appendix A.) For the cases of $\gamma_\infty=\gamma_e=1.67$ and $\gamma_\infty=\gamma_e=1.40$ the tables list more information than is listed for the other values of γ_e since

these two values are those applicable to tunnel testing in helium or undissociated air. (Dashes in the tables indicate that there are no attached shock solutions for the particular value of γ_e.) Values of the shock angle are given for both the strong and the weak shock solutions; all other parameters are for the weak shock solution only. Another tabulated angle of considerable interest for positioning of control surfaces and for boundary-layer work is the angle Δ which is the angle between the leading edge OF and the surface potential streamline OU. The equation of this angle is

$$\Delta=\cos^{-1}\left[\cos\delta\cos\epsilon_e\left(1+\frac{\sin\alpha\sin\sigma\sin\epsilon_p}{\cos\sigma\cos\epsilon_e-\frac{nC_2}{\sin\sigma}}\right)\right]$$

The reason for detachment at low angles of attack for the highly swept wings becomes obvious by inspection of figure 3 which shows the crossflow turning angle δ_N plotted against angle of attack for $\epsilon_p=15°$, 30°, and 45° and $\Gamma=0°$ and 30°. Since δ_N is larger than α and since the crossflow Mach number $M_N=M_\infty\sin\epsilon_e$ is low because of the low value of $\sin\epsilon_e$, detachment occurs at relatively low angles. The detachment angle increases, of course, with a decrease in γ_e when other conditions are kept constant.

Many hypersonic-flow analyses are based on the Newtonian concept, either modified or unmodified, that the flow on a body is a function only of the local slope of the body relative to the free-stream direction. For the panels considered herein, this Newtonian slope angle is simply that angle having a sine equal to $\sin\alpha\sin\sigma$. In figure 4 the ratio of the sine of the actual flow deflection δ to the sine of the Newtonian angle ($\sin\alpha\sin\sigma$) is plotted against the reciprocal of M_∞ for various values of ϵ_p, γ_e, and α. It is evident that, in general, this ratio deviates further from unity for a given value of α as either ϵ_p decreases, γ_e increases, or M_∞ decreases. The deviation becomes more marked as shock detachment is approached. No general rule appears applicable for the variation of this ratio with α at constant values of ϵ_p and γ_e since the curve for $\epsilon_p=30°$, $\gamma_e=1.10$, and $\alpha=10°$ lies between the curves for $\epsilon_p=30°$, $\gamma_e=1.10$, and $\alpha=20°$ and 40°.

Surface pressures were computed for $\gamma_e=1.40$ and $\Gamma=0°$ using oblique shock solutions with the flow deflection angle equal to the Newtonian angle which in this case becomes α. (These pressures are not the conventional Newtonian pressures.) The ratio of $(p_b)_\delta$ (the surface pressure obtained for $\gamma_e=1.40$ from the solutions to eqs. (13) and (15)) to $(p_b)_{\delta=\alpha}$ (the aforementioned oblique-shock surface pressures, with $\delta=\alpha$) is plotted against $1/M_\infty$ in figure 5. The errors in surface pressure become significant for the highly swept wings.

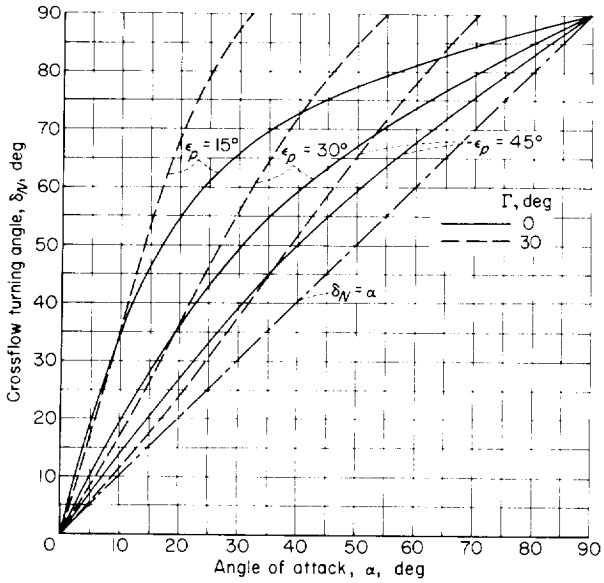


FIGURE 3.—Plot of crossflow turning angle as a function of angle of attack for different angles of sweep and dihedral.

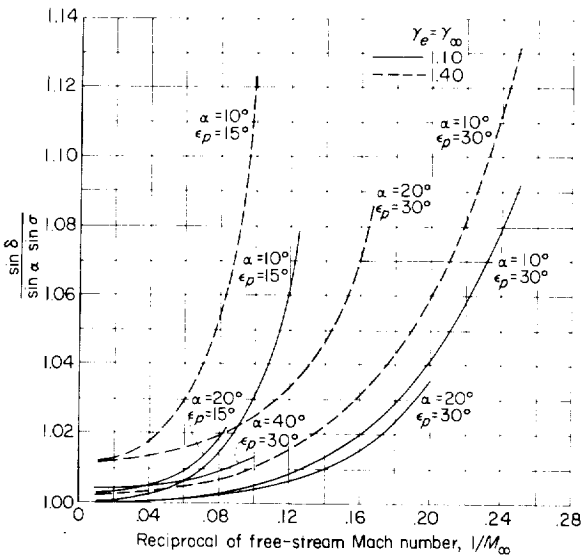


FIGURE 4.—Curves showing ratio of sine of actual deflection angle to sine of Newtonian deflection angle plotted against reciprocal of free-stream Mach number. $\Gamma=0°$.

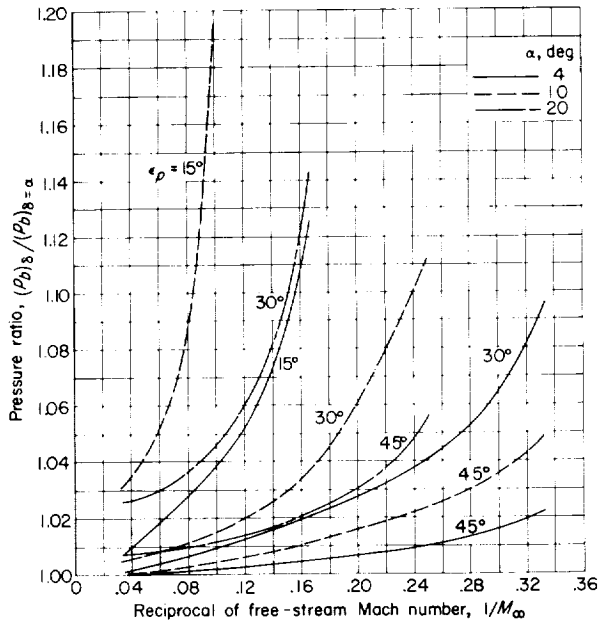


FIGURE 5.—Curves showing ratio of actual pressures behind oblique shock to pressure behind an oblique shock producing the Newtonian deflection angle plotted against the reciprocal of the free-stream Mach number. $\Gamma=0°$; $\gamma_e=\gamma_\infty=1.40$.

ILLUSTRATIVE EXAMPLE

PRESENT METHOD

Consider the following case:

$\epsilon_p=75°$ $\quad M_\infty=20$

$\sigma=80°$ $\quad h=250{,}000$ feet

$\alpha=40°$

From equation (1),

$$\epsilon_r=41.15°$$
$$\epsilon_e=75.00°$$

The equality (within the significant figures tabulated) of ϵ_p and ϵ_e arises because the leading edge is only 1.15° above the XY-plane.

The solutions to equation (13) tabulated in table II for this case have been plotted in figure 6. The intersection of the curve of these solutions with the basic curve for $h=246{,}060$ feet (the small difference in altitude introduces negligible error) occurs at $\gamma_e=1.174$. From interpolation of the values in table II between $\gamma_e=1.20$ and $\gamma_e=1.15$, the following values are determined:

$$M_n=13.89$$
$$\delta=39.30°$$
$$\Delta=68.99°$$

Then, since $\kappa=\cos^{-1}\left(-\frac{13.89}{20}\right)=134.0°$, substitution of the foregoing values of M_n and δ in equations (15), (16), and (17) produces

$$\frac{p_b}{p_\infty}=248.2$$

$$\frac{\rho_b}{\rho_\infty}=11.76$$

$$\frac{V_b}{V_\infty}=0.7220$$

ALTERNATE METHOD

The alternate computation (discussed in appendix A) would proceed as follows. From equations (A1) and (A3),

$$M_N=M_\infty \sin \epsilon_e=19.32$$

$$\delta_N=40.95°$$

It is thus necessary to find the two-dimensional shock wave which will deflect a flow with a "free stream" Mach number of 19.32 through an angle of 40.95°. The solution to this problem is found through the use of table I and interpolation. The solid line of figure 6 is a plot of γ_e against M_n and is obtained by double interpolation between the tabulated values for $M_\infty=18$ and 20 and $\epsilon=40°$ and 41°. Within the accuracy of plotting, this line superimposes on the curve used for the previous method. (If the curve were computed instead of interpolated it would be identical numerically.) The same solution of $\gamma_e=1.174$ and $M_n=13.89$ is found.

The dashed lines show a faster but less accurate method of interpolation. Four curves representing the solutions for $M_\infty=18$ and 20 and $\alpha=40°$ and 41° are plotted. Then linear interpolation is used on the intersection points of these curves with the basic curve. This method results in $\gamma_e=1.176$ and $M_n=13.90$. It should be noted that, in general, interpolation by this method gives better accuracy than it does in this particular case because here the intersection occurs at an inflection point in the basic curve.

If the more accurate solution of $\gamma_e=1.174$ and $M_n=13.89$ is used, the pressure and density ratios are the same as those obtained by the previous

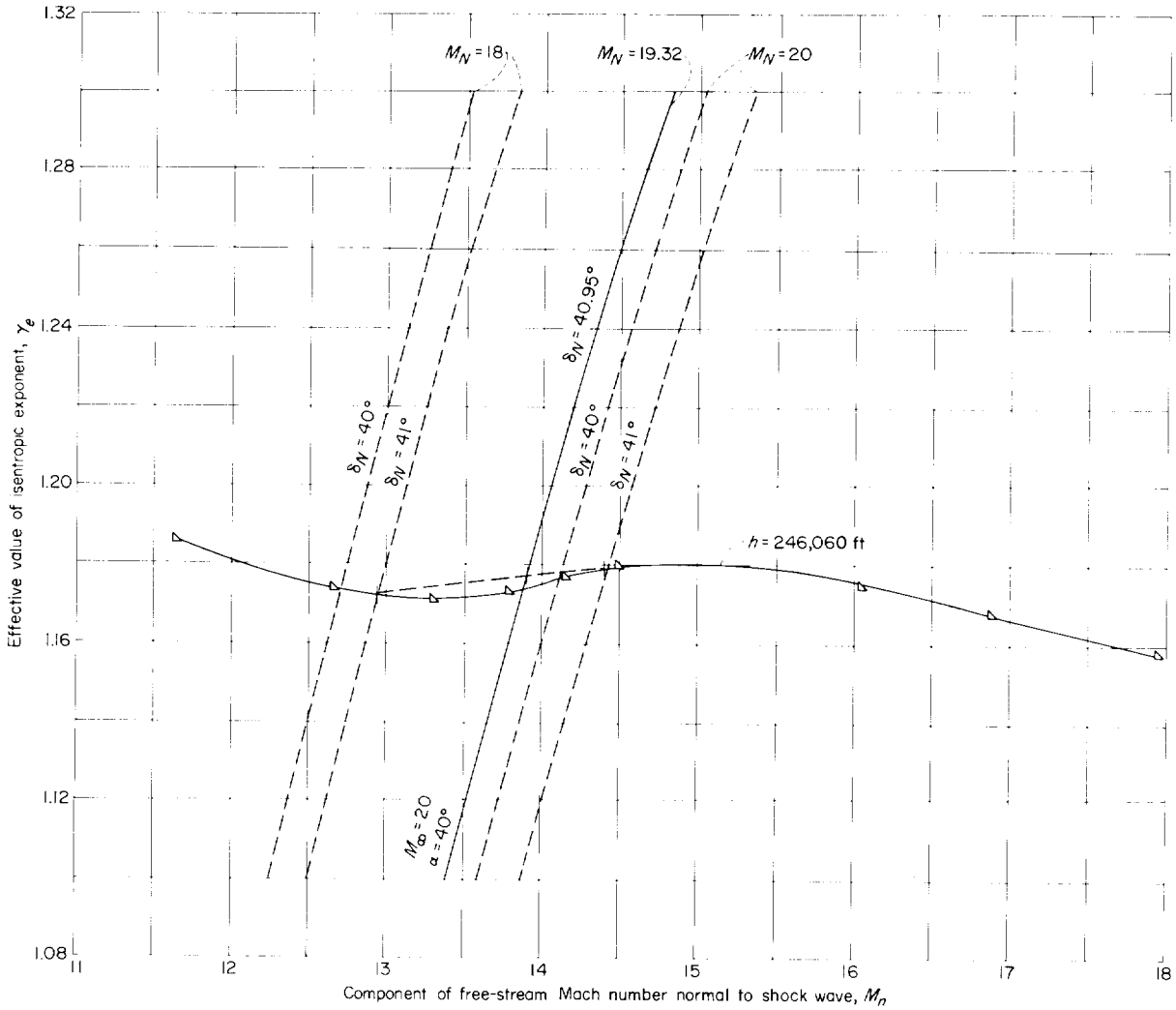


FIGURE 6.—Plot of γ_e against M_n used to solve illustrative example. $\epsilon_p = 75°$; $\sigma = 80°$; $\alpha = 40°$; $M_\infty = 20$; $h = 250{,}000$ feet.

method. The crossflow shock angle θ_N is determined as $\sin^{-1}\frac{M_n}{M_N} = 45.97°$ and the crossflow velocity ratio $\frac{V_{N,b}}{V_{N,\infty}}$ may then be evaluated from equation (A6) as 0.6977.

Solutions of equations (A7) to (A9) give:

$$\frac{V_b}{V_\infty} = 0.7219$$

$$\delta = 39.30°$$

$$\Delta = 68.98°$$

These latter values differ only in the last significant figure from those obtained using table II.

CONCLUDING REMARKS

A new method has been derived for solving the attached oblique shock-wave system for surfaces at various angles of attack, sweep, and dihedral in any equilibrium real gas. Results have been tabulated for the following ranges: angle of attack, 0° to 65°; angle of sweep, 0° to 75°; angle of dihedral, 0° to 30°; Mach number, 3 to 30; and "effective specific-heat ratio" parameter, 1.10 to 1.67. Both the method and tabulated solutions are easily adaptable to flight in any gas or in the atmosphere of any planet.

LANGLEY RESEARCH CENTER,
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION,
LANGLEY FIELD, VA., *October 27, 1959.*

APPENDIX A

ALTERNATE METHOD FOR SOLUTION TO SWEPT LEADING EDGES

The alternate solution to swept leading edges, employed in references 3 and 10, breaks the flow into two components, one (V_P) parallel to the leading edge OF and the other ($V_{N,\infty}$) normal to the leading edge. (See figs. 1(a) and 7.) From geometry

$$\left.\begin{aligned} V_{N,\infty} &= V_\infty \sin \epsilon_e \\ V_P &= V_\infty \cos \epsilon_e \end{aligned}\right\} \tag{A1}$$

These components lie in the plane HOF containing the X-axis and the leading edge and, consequently, if the flow is to be parallel to the wing-panel plane OKF the normal component $V_{N,\infty}$ must be deflected by the oblique shock through an angle δ_N which is the angle between the normals to the planes HOF and OKF. Since the normals to HOF and OKF are, respectively,

$$\left.\begin{aligned} \frac{y}{\tan \alpha'} &= \frac{z}{\tan \lambda} \\ \frac{x}{1} &= \frac{y}{-\cot \beta} = \frac{z}{\cot \alpha} \end{aligned}\right\} \tag{A2}$$

the angle between the normals may be expressed by any of the following forms:

$$\left.\begin{aligned} \delta_N &= \cos^{-1}\left[\frac{1}{\tan \epsilon_e}\frac{1}{\cos \alpha'}(\cos \alpha \tan \epsilon_p \sin \sigma - \sin \alpha' \cos \sigma)\right] \\ \delta_N &= \cos^{-1}\left(\frac{\cos \alpha - \cos \epsilon_o \cos \epsilon_e}{\sin \epsilon_o \sin \epsilon_e}\right) \\ \delta_N &= \cos^{-1}\left(\frac{C_2}{\sqrt{C_1}}\right) \end{aligned}\right\} \tag{A3}$$

Thus, the problem is reduced to finding the two-dimensional oblique shock system which will deflect a flow with an approach velocity $V_{N,\infty}$ through an angle δ_N. This solution involves a trial-and-error procedure for a real gas (i.e., variable γ_e) or the use of tables such as table I.

Once γ_e has been determined for these conditions, the other flow parameters can be evaluated from the following equations:

$$\frac{p_b}{p_\infty} = 1 + \frac{M_N^2 \sin^2 \theta_N - 1}{\frac{\gamma_e + 1}{2}}\left(\frac{\rho_\infty V_{N,\infty}^2}{p_\infty M_N^2}\right) \tag{A4}$$

$$\frac{\rho_\infty}{\rho_b} = 1 + \frac{\frac{1}{M_N^2 \sin^2 \theta_N} - 1}{\frac{\gamma_e + 1}{2}} \tag{A5}$$

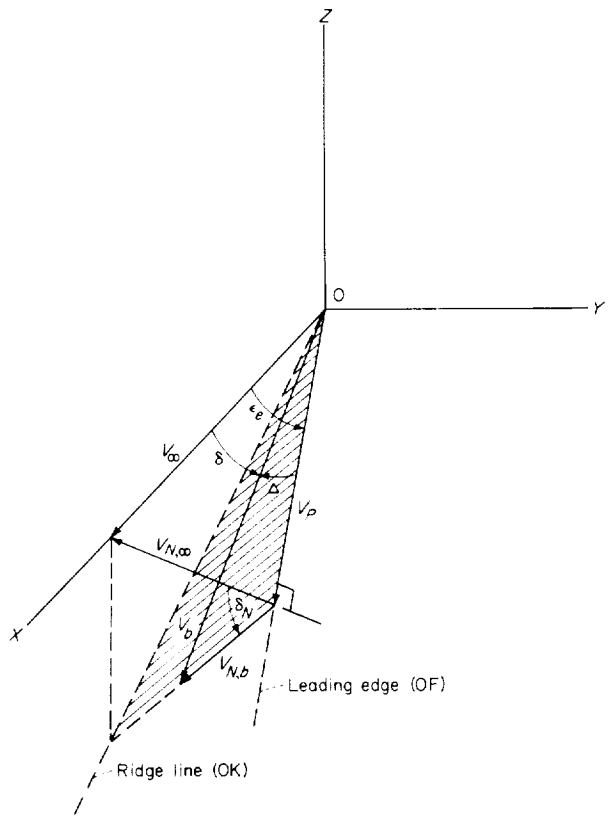


FIGURE 7.—Vector diagram illustrating alternate method of solution which resolves flow into components normal and parallel to swept leading edge.

$$\frac{V_{N,b}}{V_{N,\infty}}=\frac{\cos\theta_N}{\cos(\theta_N-\delta_N)} \tag{A6}$$

$$\frac{V_b}{V_\infty}=\sqrt{1-\sin^2\epsilon_e\left[1-\left(\frac{V_{N,b}}{V_{N,\infty}}\right)^2\right]} \tag{A7}$$

$$\delta=\cos^{-1}\left\{\frac{1+\left(\frac{V_b}{V_\infty}\right)^2-\sin^2\epsilon_e\left[1+\left(\frac{V_{N,b}}{V_{N,\infty}}\right)^2-2\left(\frac{V_{N,b}}{V_{N,\infty}}\right)\cos\delta_N\right]}{2\left(\frac{V_b}{V_\infty}\right)}\right\} \tag{A8}$$

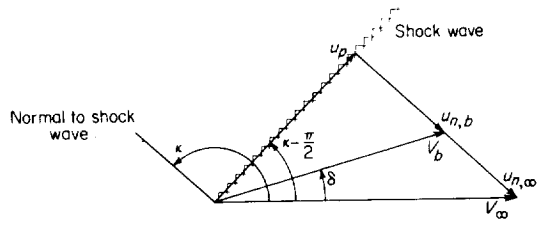
$$\Delta=\tan^{-1}\left(\frac{V_{N,b}}{V_{N,\infty}}\tan\epsilon_e\right) \tag{A9}$$

The reasons for using the new method, described in the section entitled "Theory," to obtain tables appropriate for application to flight in the atmosphere of the earth or of other planets as well as to tunnel testing in various gases, rather than the alternate method, will now be considered. As has been mentioned, the relegation of the trial-and-error procedure (i.e., crossplotting) to the last step of the solution of the new method permits tabulations of values between which easy interpolation is practical and which may be applicable for future revised atmospheric conditions. The Mach number M_∞ appears only in the equations for C_4, C_5, and C_6 of equations (13) and (14), while γ_e appears only in the equation for C_4 so that the system is suited for automatic computing over a range of M_∞ and γ_e. Once γ_e has been found, the values of δ, Δ, and V_b/V_∞ can be determined more rapidly by interpolation and the use of equation (17) than by use of equations (A7) to (A9).

APPENDIX B

EQUILIBRIUM RELATIONS FOR OBLIQUE SHOCKS IN A REAL GAS

The following sketch shows the velocity vectors and shock wave associated with a flow deflection δ:



From geometrical relations,

$$\frac{u_{n,b}}{u_{n,\infty}}=\frac{\tan\left[\left(\kappa-\frac{\pi}{2}\right)-\delta\right]}{\tan\left(\kappa-\frac{\pi}{2}\right)} \tag{B1}$$

which may be rearranged to yield

$$\frac{\tan\kappa}{\tan\delta}=1+\frac{1}{\cos^2\kappa\left(\frac{u_{n,b}}{u_{n,\infty}}-1\right)} \tag{B2}$$

Now, by definition, let

$$\gamma_e\equiv 2\frac{\left(\frac{1}{M_n}\right)^2-1}{\left(\frac{\rho_\infty}{\rho_b}-1\right)}-1 \tag{B3}$$

Since continuity requires that

$$\rho_\infty u_{n,\infty}=\rho_b u_{n,b} \tag{B4}$$

then,

$$\frac{u_{n,b}}{u_{n,\infty}}-1=\frac{\rho_\infty}{\rho_b}-1=\frac{\left(\frac{1}{M_n}\right)^2-1}{\frac{\gamma_e+1}{2}} \tag{B5}$$

Therefore, the relation between the shock and deflection angles becomes

$$\frac{\tan\kappa}{\tan\delta}=1+\frac{\frac{\gamma_e+1}{2}}{\left[\left(\frac{1}{M_n}\right)^2-1\right]\cos^2\kappa}=1+\frac{\frac{\gamma_e+1}{2}}{\frac{1}{M_\infty{}^2}-\cos^2\kappa} \tag{B6}$$

since

$$M_n=-M_\infty\cos\kappa \tag{B7}$$

The pressure rise across the shock follows from the momentum equation

$$p_b+\rho_\infty u_{n,\infty}u_{n,b}=p_\infty+\rho_\infty u_{n,\infty}u_{n,\infty} \tag{B8}$$

or

$$\frac{p_b}{p_\infty}=1+\left(\frac{\rho_\infty u_{n,\infty}{}^2}{p_\infty}\right)\left(1-\frac{u_{n,b}}{u_{n,\infty}}\right) \tag{B8a}$$

Combining equations (B5),(B7), and (B8a) yields

$$\frac{p_b}{p_\infty}=1+\left(\frac{\rho_\infty u_{n,\infty}{}^2}{p_\infty}\right)\frac{1-\frac{1}{M_\infty{}^2\cos^2\kappa}}{\frac{\gamma_e+1}{2}} \tag{B9}$$

or

$$\frac{p_b}{p_\infty}=1+\frac{M_\infty{}^2\cos^2\kappa-1}{\frac{\gamma_e+1}{2}}\left(\frac{\rho_\infty u_\infty{}^2}{p_\infty M_\infty{}^2}\right) \tag{B9a}$$

For an equilibrium gas ahead of the shock in which

$$a_\infty{}^2=\left(\frac{\partial p}{\partial\rho}\right)_{\text{constant entropy}}=\frac{\gamma_\infty p_\infty}{\rho_\infty} \tag{B10}$$

and

$$\gamma_\infty\equiv\left[\frac{d(\log p_\infty)}{d(\log\rho_\infty)}\right]_{\text{constant entropy}} \tag{B11}$$

the following equations result:

$$\frac{\rho_\infty u_\infty{}^2}{p_\infty M_\infty{}^2}=\gamma_\infty \tag{B12}$$

and

$$\frac{p_b}{p_\infty}=1+\gamma_\infty \frac{M_\infty^2 \cos^2 \kappa-1}{\frac{\gamma_e+1}{2}} \tag{B13}$$

The velocity ratio may be found by geometry to be

$$\frac{V_b}{V_\infty}=\frac{1}{\cos \delta}\left[1+\left(\frac{\rho_\infty}{\rho_b}-1\right)\cos^2 \kappa\right] \tag{B14}$$

REFERENCES

1. Bertram, Mitchel H., and Henderson, Arthur, Jr.: Effects of Boundary-Layer Displacement and Leading-Edge Bluntness on Pressure Distribution, Skin Friction, and Heat Transfer of Bodies at Hypersonic Speeds. NACA TN 4301, 1958.
2. Creager, Marcus O.: The Effect of Leading-Edge Sweep and Surface Inclination on the Hypersonic Flow Field Over a Blunt Flat Plate. NASA MEMO 12-26-58A, 1959.
3. Anon.: Normal and Oblique Shock Characteristics at Hypersonic Speeds. Eng. Rep. No. LB-25599 (ARDC TR-57-184, AD 116202), Douglas Aircraft Co., Inc., Dec. 31, 1957.
4. Huber, Paul W.: Tables and Graphs of Normal-Shock Parameters at Hypersonic Mach Numbers and Selected Altitudes. NACA TN 4352, 1958.
5. Feldman, Saul: Hypersonic Gas Dynamic Charts for Equilibrium Air. AVCO Res. Lab., Jan. 1957.
6. Moeckel, Wolfgang E.: Oblique-Shock Relations at Hypersonic Speeds for Air in Chemical Equilibrium. NACA TN 3895, 1957.
7. Minzner, R. A., and Ripley, W. S.: The ARDC Model Atmosphere, 1956. Air Force Surveys in Geophysics No. 86 (AFCRC TN-56-204), Geophysics Res. Dir., AF Cambridge Res. Center (Bedford, Mass.), Dec. 1956. (Available as ASTIA Doc. 110233.)
8. Anon.: Handbook of Supersonic Aerodynamics. NAVORD Rep. 1488 (vol. 1), Bur. Ord., Apr. 1, 1950.
9. Hilsenrath, Joseph, Beckett, Charles W., et al.: Tables of Thermal Properties of Gases. NBS Cir. 564, U.S. Dept. Commerce, 1955.
10. Cooper, Morton, and Stainback, P. Calvin: Influence of Large Positive Dihedral on Heat Transfer to Leading Edges of Highly Swept Wings at Very High Mach Numbers. NASA MEMO 3-7-59L, 1959.

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TABLE I - OBLIQUE-SHOCK SOLUTIONS FOR UNSWEPT LEADING EDGES - Continued

		$\gamma_e = \gamma_\infty = 1.67$						$\gamma_e = \gamma_\infty = 1.40$						γ_e					
	α, M_∞	θ_s,	θ,	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s,	θ,	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	1.35	1.30	1.25	1.20	1.15	1.10
	deg	deg	deg					deg	deg					M_n					
1	3.0	89.50	20.24	1.04	1.10	0.9406	2.93	89.65	20.16	1.03	1.06	0.9464	2.95	1.03	1.03	1.03	1.03	1.03	1.03
	4.0	89.58	15.21	1.05	1.23	.9314	3.89	89.72	15.13	1.04	1.11	.9311	3.93	1.04	1.04	1.04	1.04	1.04	1.04
	5.0	89.61	12.25	1.06	1.36	.9202	4.84	89.75	12.18	1.05	1.13	.9157	4.89	1.05	1.05	1.05	1.05	1.05	1.05
	6.0	89.63	10.31	1.07	1.49	.9011	5.78	89.77	10.23	1.07	1.16	.9004	5.86	1.06	1.06	1.06	1.06	1.06	1.06
	7.0	89.64	8.92	1.09	1.62	.8764	6.70	89.78	8.85	1.08	1.19	.8855	6.81	1.08	1.07	1.07	1.07	1.07	1.07
	8.0	89.64	7.89	1.10	1.76	.8719	7.62	89.78	7.82	1.09	1.21	.8708	7.76	1.09	1.08	1.08	1.08	1.08	1.08
	10.0	89.65	6.45	1.12	1.35	.8440	9.42	89.79	6.38	1.11	1.27	.8422	9.64	1.11	1.11	1.10	1.10	1.10	1.10
	12.0	89.66	5.50	1.15	1.40	.8173	11.19	89.79	5.42	1.13	1.33	.8148	11.50	1.13	1.13	1.13	1.12	1.12	1.12
	14.0	89.66	4.82	1.18	1.48	.7919	12.91	89.79	4.74	1.16	1.40	.7885	13.32	1.15	1.15	1.15	1.14	1.14	1.14
	16.0	89.66	4.32	1.20	1.56	.7677	14.59	89.80	4.24	1.18	1.46	.7655	15.12	1.18	1.17	1.17	1.17	1.16	1.16
	18.0	89.66	3.92	1.23	1.65	.7446	16.24	89.80	3.84	1.21	1.53	.7393	16.90	1.20	1.20	1.19	1.19	1.18	1.18
	20.0	89.66	3.61	1.26	1.74	.7227	17.84	89.80	3.53	1.23	1.60	.7163	18.65	1.23	1.22	1.22	1.21	1.21	1.20
	30.0	89.66	2.69	1.41	2.23	.6052	25.51	89.80	2.40	1.36	2.00	.6156	27.03	1.35	1.35	1.34	1.33	1.32	1.31
2	3.0	88.99	21.03	1.08	1.20	.8971	2.86	89.30	20.87	1.07	1.17	.8965	2.90	1.07	1.07	1.06	1.06	1.06	1.06
	4.0	89.15	15.97	1.10	1.36	.8693	3.76	89.44	15.81	1.09	1.28	.8681	3.85	1.09	1.09	1.08	1.08	1.08	1.08
	5.0	89.22	13.01	1.13	1.53	.8421	4.68	89.50	12.90	1.11	1.28	.8403	4.79	1.11	1.11	1.10	1.10	1.10	1.10
	6.0	89.25	11.06	1.15	1.41	.8159	5.66	89.53	10.91	1.14	1.34	.8133	5.72	1.13	1.15	1.13	1.12	1.12	1.12
	7.0	89.27	9.69	1.18	1.48	.7907	6.43	89.55	9.55	1.16	1.40	.7873	6.63	1.16	1.15	1.15	1.14	1.14	1.14
	8.0	89.29	8.66	1.21	1.57	.7667	7.27	89.56	8.56	1.19	1.47	.7624	7.53	1.18	1.17	1.17	1.17	1.16	1.16
	10.0	89.30	7.24	1.26	1.74	.7221	8.89	89.58	7.08	1.23	1.60	.7156	9.30	1.23	1.22	1.22	1.21	1.21	1.20
	12.0	89.31	6.32	1.32	1.93	.6816	10.44	89.58	6.24	1.28	1.75	.6728	11.01	1.28	1.27	1.26	1.26	1.25	1.24
	14.0	89.32	5.62	1.38	2.13	.6449	11.92	89.59	5.48	1.34	1.92	.6336	12.67	1.33	1.32	1.31	1.30	1.30	1.29
	16.0	89.32	5.17	1.44	2.35	.6118	13.52	89.59	4.96	1.39	2.09	.5978	14.39	1.38	1.37	1.36	1.35	1.34	1.34
	18.0	89.32	4.79	1.50	2.54	.5819	14.66	89.59	4.61	1.45	2.27	.5652	15.86	1.44	1.42	1.41	1.40	1.39	1.38
	20.0	89.32	4.50	1.57	2.93	.5549	15.92	89.59	4.31	1.50	2.47	.5354	17.36	1.49	1.48	1.47	1.46	1.44	1.43
	30.0	89.33	3.67	1.92	4.36	.4343	21.29	89.60	3.46	1.81	3.65	.4210	24.15	1.79	1.77	1.75	1.73	1.71	1.69
3	3.0	88.49	21.86	1.12	1.31	.8514	2.79	88.99	21.60	1.10	1.26	.8500	2.85	1.10	1.10	1.10	1.10	1.09	1.09
	4.0	88.72	16.77	1.15	1.42	.8133	3.68	89.16	16.52	1.14	1.34	.8107	3.78	1.13	1.13	1.13	1.13	1.12	1.12
	5.0	88.83	13.81	1.19	1.53	.7768	4.53	89.25	13.56	1.17	1.44	.7730	4.69	1.17	1.16	1.16	1.16	1.15	1.15
	6.0	88.88	11.87	1.23	1.66	.7425	5.39	89.30	11.62	1.21	1.54	.7372	5.58	1.20	1.20	1.19	1.19	1.19	1.18
	7.0	88.91	10.51	1.28	1.79	.7100	6.16	89.32	10.25	1.25	1.64	.7036	6.46	1.24	1.23	1.23	1.22	1.22	1.21
	8.0	88.93	9.50	1.32	1.93	.6806	6.93	89.34	9.24	1.28	1.76	.6720	7.31	1.28	1.27	1.26	1.26	1.25	1.25
	10.0	88.95	8.11	1.41	2.24	.6279	8.39	89.36	7.84	1.36	2.00	.6148	8.96	1.36	1.35	1.34	1.33	1.32	1.31
	12.0	88.96	7.21	1.51	2.58	.5816	9.74	89.37	6.92	1.45	2.27	.5649	10.53	1.44	1.43	1.41	1.40	1.39	1.38
	14.0	88.97	6.58	1.60	2.97	.5422	10.99	89.38	6.29	1.53	2.55	.5213	12.03	1.52	1.51	1.49	1.48	1.47	1.46
	16.0	88.98	6.13	1.71	3.39	.5084	12.14	89.38	5.82	1.62	2.90	.4852	13.45	1.61	1.59	1.58	1.56	1.55	1.53
	18.0	88.98	5.78	1.81	3.85	.4793	13.19	89.39	5.47	1.71	3.26	.4501	14.80	1.70	1.68	1.66	1.64	1.63	1.61
	20.0	88.98	5.51	1.92	4.36	.4543	14.16	89.39	5.19	1.81	3.65	.4211	16.07	1.79	1.77	1.75	1.73	1.71	1.69
	30.0	88.99	4.78	2.50	7.51	.3710	17.87	89.40	4.45	2.32	6.09	.3220	21.36	2.28	2.25	2.22	2.19	2.15	2.12
4	3.0	87.98	22.71	1.16	1.45	.8092	2.72	88.59	22.39	1.14	1.35	.8068	2.80	1.14	1.13	1.13	1.13	1.13	1.12
	4.0	88.30	17.61	1.21	1.58	.7727	3.57	88.88	17.26	1.19	1.48	.7684	3.71	1.18	1.18	1.17	1.17	1.17	1.16
	5.0	88.45	14.60	1.26	1.75	.7394	4.39	89.00	14.30	1.24	1.61	.7330	4.59	1.23	1.22	1.22	1.21	1.21	1.20
	6.0	88.50	12.73	1.32	1.93	.6997	5.16	89.06	12.37	1.29	1.76	.6909	5.45	1.28	1.27	1.27	1.26	1.26	1.25
	7.0	88.54	11.34	1.38	2.14	.6655	5.90	89.10	11.02	1.34	1.92	.6523	6.28	1.33	1.32	1.31	1.31	1.30	1.29
	8.0	88.57	10.30	1.44	2.35	.6328	6.66	89.12	10.02	1.39	2.09	.6168	7.09	1.38	1.37	1.36	1.35	1.35	1.34
	10.0	88.60	9.04	1.57	2.84	.5843	7.98	89.15	8.65	1.50	2.47	.5548	8.63	1.49	1.48	1.47	1.46	1.44	1.43
	12.0	88.62	8.18	1.71	3.39	.5462	9.07	89.16	7.77	1.62	2.91	.4831	10.06	1.61	1.59	1.58	1.56	1.55	1.53
	14.0	88.63	7.58	1.85	4.02	.4704	10.11	89.17	7.17	1.75	3.39	.4399	11.39	1.73	1.71	1.69	1.67	1.66	1.64
	16.0	88.63	7.16	1.99	4.72	.4394	11.04	89.18	6.73	1.87	3.95	.4039	12.62	1.85	1.83	1.81	1.79	1.77	1.75
	18.0	88.64	6.84	2.14	5.50	.4138	11.86	89.18	6.40	2.01	4.53	.3737	13.76	1.98	1.96	1.93	1.91	1.88	1.86
	20.0	88.64	6.60	2.30	6.36	.3926	12.58	89.19	6.15	2.14	5.19	.3483	14.81	2.11	2.08	2.06	2.03	2.00	1.97
	30.0	88.65	5.99	3.12	11.90	.3281	15.11	89.24	5.47	2.86	9.39	.2684	18.92	2.81	2.77	2.72	2.68	2.63	2.58
5	3.0	87.47	23.50	1.20	1.59	.7703	2.65	86.24	23.13	1.18	1.45	.7666	2.75	1.17	1.17	1.17	1.16	1.16	1.15
	4.0	87.87	18.47	1.27	1.78	.7172	3.47	86.59	18.02	1.24	1.62	.7106	3.64	1.23	1.23	1.22	1.22	1.21	1.20
	5.0	88.03	15.53	1.34	1.97	.6689	4.25	86.74	15.07	1.30	1.81	.6596	4.49	1.29	1.29	1.28	1.27	1.27	1.26
	6.0	88.12	13.63	1.41	2.25	.6258	4.97	86.82	13.16	1.37	2.01	.6133	5.32	1.36	1.35	1.34	1.33	1.32	1.31
	7.0	88.17	12.30	1.49	2.53	.5875	5.65	86.87	11.82	1.43	2.23	.5717	6.11	1.42	1.41	1.40	1.39	1.38	1.37
	8.0	88.21	11.34	1.57	2.84	.5539	6.29	86.90	10.83	1.51	2.45	.5344	6.86	1.49	1.48	1.47	1.46	1.44	1.43
	10.0	88.25	10.03	1.74	3.59	.4976	7.44	86.93	9.59	1.69	3.02	.4714	8.29	1.64	1.60	1.61	1.59	1.57	1.56
	12.0	88.27	9.21	1.92	4.56	.4540	8.44	86.95	8.69	1.91	3.66	.4210	9.58	1.79	1.77	1.75	1.73	1.71	1.69
	14.0	88.28	8.60	2.11	5.80	.4197	9.30	86.96	8.10	1.97	4.38	.3807	10.79	1.97	1.90	1.90	1.88	1.85	1.83
	16.0	88.29	8.16	2.30	6.36	.3920	10.06	86.97	7.69	2.14	5.19	.3483	11.81	2.11	2.08	2.06	2.03	2.00	1.97
	18.0	88.29	7.98	2.50	7.93	.3710	10.74	86.98	7.39	2.30	6.09	.3220	12.76	2.28	2.25	2.22	2.18	2.15	2.12
	20.0	88.30	7.76	2.70	8.87	.3537	11.20	86.98	7.16	2.49	7.09	.3006	13.60	2.46	2.42	2.38	2.34	2.31	2.27
	30.0	88.31	7.20	3.76	17.43	.3039	12.94	86.99	6.57	3.43	13.56	.2375	16.61	3.37	3.31	3.25	3.19	3.13	3.07
6	3.0	86.92	24.02	1.24	1.69	.7343	2.59	87.68	23.94	1.22	1.56	.7292	2.70	1.21	1.21	1.20	1.20	1.19	1.19
	4.0	87.43	19.58	1.33	1.95	.6762	3.36	88.51	18.81	1.29	1.77	.6676	3.57	1.28	1.28	1.27	1.26	1.26	1.25
	5.0	87.63	16.49	1.42	2.26	.6246	4.11	88.49	15.66	1.37	2.02	.6121	4.39	1.36	1.35	1.34	1.33	1.32	1.32
	6.0	87.74	14.57	1.51	2.60	.5796	4.78	88.08	13.96	1.45	2.29	.5632	5.18	1.44	1.43	1.42	1.41	1.40	1.39
	7.0	87.80	13.27	1.61	2.98	.5410	5.41	86.64	12.67	1.54	2.58	.5202	5.93	1.52	1.51	1.50	1.48	1.47	1.46
	8.0	87.84	12.33	1.71	3.40	.5076	5.99	86.68	11.71	1.62	2.91	.4826	6.64	1.61	1.59	1.58	1.56	1.55	1.53
	10.0	87.89	11.08	1.92	4.37	.4538	7.00	88.72	10.43	1.81	3.66	.4309	7.95	1.79	1.77	1.75	1.73	1.71	1.69
	12.0	87.92	10.30	2.13	5.51	.4137	7.84	88.74	9.63	2.01	4.53	.3736	9.11	1.98	1.96	1.93	1.91	1.88	1.86
	14.0	87.93	9.78	2.38	6.83	.3834	8.55	88.76	9.09	2.21	5.54	.3371	10.13	2.18	2.15	2.12	2.09	2.06	2.03
	16.0	87.94	9.42	2.62	8.33	.3602	9.13	88.76	8.71	2.42	6.68	.3087	11.05	2.39	2.35	2.32	2.28	2.24	2.21
	18.0	87.95	9.16	2.86	10.01	.3422	9.61	88.77	8.43	2.64	7.95	.2863	11.81	2.60	2.56	2.52	2.47	2.43	2.39
	20.0	87.95	8.96	3.12	11.89	.3281	10.01	88.77	8.22	2.86	9.38	.2669	12.46	2.81	2.77	2.72	2.67	2.63	2.58
	30.0	87.96	8.47	4.42	24.35	.2893	11.24	88.78	7.69	4.01	18.63	.2184	14.75	3.94	3.87	3.79	3.72	3.65	3.57
7	3.0	86.43	25.46	1.29	1.83	.7012	2.52	87.52	24.78	1.26	1.68	.6945	2.65	1.25	1.24	1.24	1.23	1.23	1.22
	4.0	86.99	20.58	1.39	2.16	.6393	3.28	88.08	19.63	1.34	1.94	.6282	3.50	1.34	1.33	1.32	1.31	1.30	1.30
	5.0	87.23	17.41	1.50	2.50	.5958	3.97	88.23	16.72	1.44	2.24	.5799	4.30	1.43	1.42	1.41	1.40	1.39	1.37
	6.0	87.36	15.50	1.61	2.99	.5604	4.60	88.34	14.84	1.54	2.59	.5196	5.05	1.52	1.51	1.50	1.48	1.47	1.46
	7.0	87.43	14.28	1.73	3.48	.5320	5.17	88.41	13.55	1.64	2.97	.4760	5.76	1.62	1.61	1.59	1.58	1.56	1.55
	8.0	87.48	13.37	1.85	4.03	.5098	5.69	88.46	12.68	1.75	3.40	.4395	6.42	1.73	1.71	1.69	1.67	1.66	1.64
	10.0	87.53	12.17	2.11	5.51	.4195	6.58	88.50	11.38	1.97	4.38	.3806	7.62	1.95	1.92	1.90	1.88	1.85	1.83
	12.0	87.56	11.43	2.38	6.83	.3833	7.29	88.53	10.62	2.21	5.54	.3372	8.65	2.18	2.15	2.12	2.09	2.06	2.03
	14.0	87.58	10.96	2.66	8.59	.3569	7.87	88.54	10.11	2.46	6.88	.3047	9.53	2.42	2.38	2.35	2.31	2.28	2.24
	16.0	87.59	10.62	2.95	10.62	.3370	8.33	88.55	9.76	2.71	8.41	.2800	10.29	2.67	2.63	2.58	2.54	2.50	2.46
	18.0	87.60	10.38	3.24	12.90	.3228	8.70	88.56	9.50	2.97	10.13	.2610	10.95	2.92	2.87	2.82	2.77	2.73	2.68
	20.0	87.60	10.20	3.54	15.44	.3107	9.00	88.57	9.31	3.24	12.00	.2462	11.47	3.18	3.12	3.07	3.01	2.96	2.90
	30.0	87.62	9.76	5.08	36.07	.2799	9.86	88.58	8.85	4.61	34.59	.2059	13.18	4.52	4.43	4.34	4.26	4.17	4.08

TABLE I - OBLIQUE-SHOCK SOLUTIONS FOR UNSWEPT LEADING EDGES - Continued

α, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$						$\gamma_e = \gamma_\infty = 1.40$						γ_e					
		θ_s, deg	θ, deg	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	1.35	1.30	1.25	1.20	1.15	1.10
														M_n					
8	3.0	85.90	26.45	1.34	1.98	0.6706	2.46	87.15	25.61	1.30	1.80	0.5622	2.60	1.29	1.28	1.28	1.27	1.26	1.25
	4.0	86.55	21.29	1.45	2.39	.6061	3.18	87.73	20.47	1.40	2.12	.1925	3.43	1.39	1.38	1.37	1.36	1.35	1.34
	5.0	86.82	18.40	1.58	2.86	.5517	3.84	87.97	17.57	1.51	2.49	.1325	4.20	1.50	1.48	1.47	1.46	1.45	1.44
	6.0	86.97	16.57	1.71	3.41	.5066	4.42	88.10	15.73	1.63	2.92	.0818	4.92	1.61	1.60	1.58	1.56	1.55	1.53
	7.0	87.05	15.34	1.85	4.04	.4695	4.94	88.18	14.46	1.75	3.40	.0393	5.58	1.73	1.71	1.69	1.67	1.66	1.64
	8.0	87.11	14.45	2.00	4.74	.4388	5.41	88.23	13.56	1.88	3.94	.0136	6.20	1.85	1.83	1.81	1.79	1.77	1.75
	10.0	87.17	13.30	2.30	6.37	.3905	6.18	88.28	12.37	2.14	5.19	.9483	7.29	2.11	2.08	2.06	2.03	2.00	1.97
	12.0	87.20	12.60	2.62	8.33	.3602	6.78	88.31	11.64	2.42	6.67	.9088	8.20	2.39	2.35	2.31	2.28	2.24	2.21
	14.0	87.22	12.15	2.95	10.62	.3372	7.25	88.33	11.16	2.71	8.41	.8801	8.97	2.67	2.62	2.58	2.54	2.50	2.45
	16.0	87.24	11.84	3.28	13.24	.3204	7.62	88.34	10.84	3.01	10.39	.8588	9.60	2.96	2.91	2.86	2.81	2.76	2.71
	18.0	87.25	11.62	3.63	16.20	.3079	7.91	88.35	10.60	3.31	12.63	.8427	10.12	3.25	3.20	3.14	3.08	3.02	2.97
	20.0	87.25	11.46	3.97	19.51	.2984	8.14	88.36	10.43	3.62	15.12	.8303	10.55	3.55	3.49	3.43	3.36	3.30	3.23
	30.0	87.27	11.06	5.76	41.19	.2739	8.78	88.37	9.99	5.21	31.45	.8974	11.87	5.10	5.00	4.90	4.80	4.70	4.60
9	3.0	85.35	27.46	1.38	2.14	.6424	2.59	86.78	26.48	1.34	1.98	.8322	2.55	1.33	1.32	1.31	1.31	1.30	1.29
	4.0	86.09	22.29	1.52	2.63	.5763	3.09	87.44	21.34	1.46	2.31	.8600	5.36	1.44	1.43	1.42	1.41	1.40	1.39
	5.0	86.41	19.43	1.66	3.21	.5218	3.71	87.71	18.46	1.58	2.76	.8991	4.10	1.57	1.55	1.54	1.53	1.51	1.50
	6.0	86.57	17.63	1.82	3.88	.4777	4.25	87.86	16.64	1.72	3.28	.8489	4.78	1.70	1.68	1.66	1.65	1.63	1.61
	7.0	86.67	16.43	1.98	4.65	.4421	4.72	87.94	15.41	1.86	3.87	.8076	5.41	1.84	1.82	1.80	1.77	1.75	1.73
	8.0	86.73	15.57	2.15	5.52	.4134	5.14	88.00	14.53	2.01	4.53	.7735	5.98	1.98	1.96	1.93	1.91	1.88	1.86
	10.0	86.80	14.47	2.50	7.56	.3710	5.81	88.06	13.38	2.31	6.08	.7222	6.97	2.28	2.25	2.22	2.18	2.15	2.12
	12.0	86.84	13.81	2.86	10.01	.3423	6.32	88.10	12.69	2.64	7.94	.6869	7.78	2.60	2.55	2.51	2.47	2.43	2.39
	14.0	86.86	13.38	3.24	12.89	.3223	6.70	88.12	12.24	2.97	10.12	.6612	8.43	2.92	2.87	2.82	2.77	2.72	2.67
	16.0	86.88	13.10	3.63	16.19	.3079	7.00	88.13	11.94	3.31	12.61	.6427	8.96	3.25	3.19	3.14	3.08	3.02	2.97
	18.0	86.89	12.89	4.02	19.93	.2974	7.22	88.14	11.72	3.66	15.43	.6290	9.39	3.59	3.52	3.46	3.39	3.33	3.26
	20.0	86.90	12.75	4.41	24.10	.2894	7.40	88.15	11.56	4.01	18.57	.6186	9.74	3.93	3.86	3.79	3.71	3.64	3.57
	30.0	86.91	12.38	6.43	51.49	.2690	7.89	88.16	11.16	5.81	39.19	.5914	10.76	5.69	5.58	5.46	5.35	5.24	5.12
10	3.0	84.80	28.51	1.43	2.31	.6163	2.33	86.41	27.36	1.38	2.05	.6044	2.51	1.37	1.36	1.35	1.34	1.33	1.32
	4.0	85.64	23.33	1.58	2.89	.5494	3.00	87.14	22.23	1.51	2.51	.6304	3.29	1.50	1.49	1.48	1.46	1.45	1.44
	5.0	85.99	20.49	1.75	3.58	.4955	3.58	87.45	19.38	1.66	3.04	.6695	4.00	1.64	1.63	1.61	1.59	1.58	1.56
	6.0	86.17	18.73	1.93	4.39	.4528	4.08	87.61	17.59	1.81	3.67	.7202	4.65	1.79	1.77	1.75	1.73	1.71	1.69
	7.0	86.28	17.55	2.11	5.32	.4191	4.51	87.71	16.38	1.97	4.38	.7805	5.23	1.95	1.92	1.90	1.88	1.85	1.83
	8.0	86.35	16.72	2.30	6.38	.3923	4.88	87.77	15.53	2.14	5.18	.8483	5.76	2.11	2.08	2.06	2.03	2.00	1.97
	10.0	86.43	15.66	2.70	8.87	.3557	5.46	87.84	14.43	2.49	7.07	.9009	6.66	2.45	2.42	2.38	2.34	2.30	2.27
	12.0	86.47	15.04	3.11	11.88	.3282	5.89	87.88	13.77	2.86	9.35	.9688	7.37	2.81	2.76	2.72	2.67	2.62	2.58
	14.0	86.50	14.64	3.54	15.41	.3108	6.21	87.90	13.35	3.23	12.02	.0465	7.93	3.18	3.12	3.06	3.01	2.95	2.90
	16.0	86.52	14.37	3.97	19.48	.2984	6.45	87.92	13.06	3.62	15.08	.1304	8.37	3.55	3.49	3.42	3.36	3.29	3.23
	18.0	86.53	14.18	4.41	24.08	.2894	6.63	87.93	12.86	4.01	18.55	.1986	8.73	3.93	3.86	3.78	3.71	3.64	3.56
	20.0	86.54	14.05	4.85	29.22	.2827	6.77	87.93	12.71	4.40	22.41	.2697	9.01	4.32	4.25	4.15	4.07	3.99	3.90
	30.0	86.56	13.71	7.11	62.98	.2658	7.14	87.95	12.34	6.41	47.81	.3869	9.81	6.28	6.16	6.03	5.90	5.77	5.65
11	3.0	84.24	29.59	1.48	2.49	.5923	2.26	86.03	28.30	1.42	2.19	.7785	2.46	1.41	1.40	1.39	1.38	1.37	1.36
	4.0	85.17	24.40	1.65	3.17	.5252	2.90	86.84	23.15	1.57	2.72	.8036	3.22	1.56	1.54	1.53	1.52	1.50	1.49
	5.0	85.56	21.58	1.84	3.98	.4723	3.45	87.18	20.32	1.74	3.35	.8431	3.90	1.72	1.70	1.68	1.66	1.64	1.63
	6.0	85.77	19.85	2.04	4.94	.4314	3.91	87.36	18.56	1.91	4.09	.9052	4.51	1.89	1.86	1.84	1.82	1.80	1.77
	7.0	85.89	18.70	2.24	6.05	.3996	4.30	87.47	17.38	2.09	4.93	.9673	5.06	2.06	2.04	2.01	1.98	1.95	1.93
	8.0	85.96	17.90	2.46	7.32	.3748	4.63	87.54	16.55	2.28	5.89	.0271	5.55	2.25	2.21	2.18	2.15	2.12	2.09
	10.0	86.05	16.89	2.91	10.31	.3397	5.14	87.62	15.49	2.67	8.16	.0835	6.36	2.63	2.59	2.54	2.50	2.46	2.42
	12.0	86.10	16.29	3.37	13.93	.3170	5.50	87.66	14.87	3.08	10.89	.0546	6.98	3.03	2.97	2.92	2.87	2.82	2.77
	14.0	86.13	15.92	3.84	18.19	.3017	5.77	87.68	14.47	3.50	14.10	.0348	7.46	3.43	3.37	3.31	3.25	3.19	3.13
	16.0	86.15	15.67	4.32	23.10	.2911	5.96	87.70	14.20	3.92	17.80	.0208	7.84	3.85	3.78	3.71	3.64	3.56	3.49
	18.0	86.16	15.49	4.81	28.66	.2833	6.11	87.71	14.01	4.36	21.98	.0106	8.13	4.27	4.19	4.11	4.03	3.95	3.87
	20.0	86.17	15.36	5.30	34.86	.2776	6.22	87.72	13.87	4.79	26.64	.0029	8.36	4.70	4.61	4.52	4.43	4.33	4.24
	30.0	86.19	15.05	7.79	75.65	.2633	6.51	87.74	13.53	7.02	57.30	.0836	9.00	6.88	6.74	6.59	6.45	6.31	6.17
12	3.0	83.66	30.71	1.53	2.68	.5701	2.20	85.64	29.25	1.47	2.34	.7545	2.41	1.45	1.44	1.43	1.42	1.41	1.40
	4.0	84.69	25.51	1.72	3.46	.5034	2.81	86.53	24.09	1.63	2.94	.7792	3.14	1.62	1.60	1.59	1.57	1.56	1.54
	5.0	85.13	22.71	1.93	4.41	.4519	3.32	86.91	21.28	1.81	3.68	.8196	3.80	1.79	1.77	1.75	1.73	1.71	1.69
	6.0	85.35	21.01	2.15	5.54	.4128	3.75	87.11	19.55	2.01	4.54	.8753	4.38	1.98	1.96	1.93	1.91	1.88	1.86
	7.0	85.49	19.89	2.38	6.84	.3830	4.10	87.23	18.40	2.21	5.53	.9373	4.89	2.18	2.15	2.12	2.09	2.06	2.03
	8.0	85.57	19.11	2.62	8.33	.3601	4.40	87.30	17.60	2.42	6.66	.0091	5.34	2.38	2.35	2.31	2.27	2.24	2.20
	10.0	85.67	18.14	3.11	11.87	.3282	4.84	87.39	16.58	2.85	9.33	.0690	6.07	2.81	2.76	2.71	2.67	2.62	2.57
	12.0	85.72	17.57	3.62	16.17	.3080	5.15	87.43	15.98	3.30	12.57	.0430	6.62	3.25	3.19	3.13	3.07	3.02	2.96
	14.0	85.75	17.21	4.14	21.22	.2946	5.37	87.46	15.60	3.77	16.37	.0254	7.03	3.70	3.63	3.56	3.49	3.42	3.36
	16.0	85.77	16.98	4.67	27.05	.2853	5.53	87.48	15.35	4.23	20.76	.0131	7.35	4.15	4.08	4.00	3.92	3.84	3.76
	18.0	85.79	16.81	5.21	33.65	.2786	5.65	87.49	15.17	4.71	25.72	.0042	7.59	4.62	4.53	4.44	4.35	4.26	4.17
	20.0	85.80	16.69	5.74	41.02	.2736	5.74	87.50	15.04	5.19	31.25	.0976	7.78	5.09	4.99	4.89	4.79	4.69	4.59
	30.0	85.82	16.40	8.47	89.48	.2614	5.97	87.52	14.72	7.62	67.65	.0810	8.30	7.47	7.31	7.16	7.01	6.85	6.70
13	3.0	83.06	31.86	1.58	2.89	.5497	2.14	85.24	30.22	1.51	2.49	.7321	2.36	1.50	1.48	1.47	1.46	1.45	1.43
	4.0	84.20	26.64	1.79	3.77	.4838	2.72	86.22	25.06	1.69	3.18	.7569	3.07	1.68	1.66	1.64	1.62	1.61	1.59
	5.0	84.68	23.87	2.02	4.87	.4339	3.20	86.64	22.27	1.90	4.02	.7987	3.70	1.87	1.85	1.83	1.80	1.78	1.76
	6.0	84.93	22.19	2.27	6.18	.3968	3.60	86.85	20.57	2.11	5.02	.8542	4.25	2.08	2.05	2.02	2.00	1.97	1.94
	7.0	85.08	21.10	2.52	7.69	.3689	3.92	86.98	19.45	2.33	6.17	.9201	4.73	2.30	2.26	2.23	2.20	2.16	2.13
	8.0	85.17	20.35	2.78	9.43	.3477	4.18	87.06	18.67	2.56	7.48	.9938	5.14	2.52	2.48	2.44	2.40	2.36	2.32
	10.0	85.28	19.41	3.32	13.56	.3188	4.56	87.16	17.68	3.04	10.60	.0570	5.79	2.99	2.93	2.88	2.83	2.78	2.73
	12.0	85.34	18.87	3.88	18.58	.3007	4.83	87.21	17.11	3.53	14.38	.0335	6.28	3.47	3.40	3.34	3.28	3.22	3.15
	14.0	85.37	18.53	4.45	24.51	.2888	5.01	87.24	16.75	4.04	18.83	.0178	6.63	3.96	3.88	3.81	3.74	3.66	3.59
	16.0	85.39	18.30	5.02	31.53	.2806	5.15	87.26	16.51	4.55	23.96	.0070	6.90	4.46	4.37	4.29	4.20	4.11	4.03
	18.0	85.41	18.15	5.61	39.06	.2748	5.24	87.27	16.34	5.06	29.76	.9992	7.11	4.97	4.87	4.77	4.67	4.57	4.48
	20.0	85.42	18.03	6.19	47.69	.2705	5.32	87.28	16.22	5.59	36.24	.9934	7.27	5.48	5.37	5.26	5.15	5.04	4.93
	30.0	85.45	17.76	9.15	104.5	.2599	5.50	87.30	15.92	8.23	78.86	.9790	7.69	8.06	7.89	7.73	7.56	7.39	7.23
14	3.0	82.45	33.05	1.64	3.10	.5307	2.07	84.84	31.22	1.55	2.65	.7113	2.31	1.54	1.53	1.51	1.50	1.48	1.47
	4.0	83.70	27.81	1.87	4.11	.4660	2.63	85.91	26.05	1.76	3.43	.7367	3.00	1.74	1.72	1.70	1.68	1.66	1.64
	5.0	84.23	25.06	2.12	5.36	.4180	3.08	86.36	23.29	1.98	4.39	.7993	3.60	1.95	1.93	1.90	1.88	1.85	1.83
	6.0	84.50	23.41	2.38	6.86	.3828	3.45	86.59	21.61	2.21	5.53	.8733	4.12	2.18	2.15	2.12	2.09	2.06	2.03
	7.0	84.66	22.34	2.66	8.61	.3567	3.73	86.73	20.51	2.45	6.85	.9522	4.56	2.42	2.38	2.34	2.30	2.27	2.23
	8.0	84.76	21.61	2.95	10.61	.3372	3.97	86.82	19.76	2.70	8.36	.0306	4.94	2.66	2.62	2.57	2.53	2.49	2.45
	10.0	84.88	20.70	3.53	15.38	.3109	4.31	86.92	18.81	3.22	11.96	.0469	5.53	3.17	3.11	3.05	3.00	2.94	2.89
	12.0	84.94	20.18	4.14	21.19	.2946	4.53	86.98	18.26	3.76	16.32	.0256	5.95	3.69	3.62	3.55	3.48	3.42	3.35
	14.0	84.98	19.86	4.76	28.04	.2841	4.69	87.01	17.91	4.31	21.47	.0116	6.27	4.22	4.14	4.06	3.98	3.90	3.82
	16.0	85.01	19.64	5.38	35.94	.2768	4.80	87.03	17.68	4.86	27.39	.0019	6.49	4.77	4.67	4.58	4.48	4.39	4.30
	18.0	85.02	19.49	6.01	44.88	.2717	4.88	87.05	17.52	5.42	34.10	.9950	6.67	5.31	5.21	5.10	4.99	4.89	4.78
	20.0	85.03	19.39	6.64	54.88	.2681	4.94	87.06	17.41	5.98	41.60	.9899	6.80	5.86	5.74	5.63	5.51	5.39	5.27
	30.0	85.06	19.13	9.83	120.6	.2587	5.09	87.08	17.13	8.84	90.91	.9773	7.19	8.69	8.47	8.29	8.11	7.93	7.79

TABLE I - OBLIQUE-SHOCK SOLUTIONS FOR UNSWEPT LEADING EDGES - Continued

	$\gamma_e = \gamma_\infty = 1.67$						$\gamma_e = \gamma_\infty = 1.40$						γ_e					
α, M_∞	θ_s,	θ,	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s,	θ,	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	1.35	1.30	1.25	1.20	1.15	1.10
deg	deg	deg					deg	deg					M_n					
15 3.0	81.81	34.29	1.69	3.32	0.5152	2.01	84.42	32.24	1.60	2.82	0.4920	2.25	1.58	1.57	1.55	1.54	1.52	1.51
4.0	83.19	29.01	1.94	4.46	.4500	2.55	85.39	27.06	1.82	3.70	.4183	2.93	1.80	1.78	1.76	1.74	1.71	1.69
5.0	83.76	26.28	2.21	5.88	.4038	2.97	86.07	24.34	2.06	4.78	.3632	3.50	2.03	2.00	1.98	1.95	1.92	1.90
6.0	84.06	24.65	2.50	7.58	.3705	3.30	86.33	22.67	2.31	6.07	.3225	3.99	2.26	2.24	2.21	2.18	2.14	2.11
7.0	84.23	23.60	2.80	9.58	.3463	3.56	86.48	21.60	2.56	7.55	.2922	4.40	2.54	2.50	2.46	2.42	2.38	2.34
8.0	84.34	22.89	3.11	11.86	.3283	3.77	86.57	20.86	2.85	9.30	.2694	4.75	2.80	2.75	2.71	2.66	2.61	2.57
10.0	84.47	22.01	3.75	17.32	.3043	4.07	86.68	19.94	3.41	13.40	.2383	5.28	3.35	3.29	3.23	3.17	3.11	3.05
12.0	84.54	21.51	4.40	23.97	.2896	4.26	86.74	19.41	3.99	18.40	.2190	5.65	3.91	3.84	3.77	3.69	3.62	3.55
14.0	84.58	21.20	5.06	31.82	.2802	4.40	86.78	19.09	4.58	24.28	.2064	5.92	4.49	4.40	4.31	4.23	4.14	4.05
16.0	84.61	21.00	5.73	40.87	.2737	4.49	86.80	18.87	5.17	31.06	.1978	6.12	5.07	4.97	4.87	4.77	4.67	4.57
18.0	84.63	20.86	6.41	51.12	.2692	4.56	86.82	18.71	5.78	38.75	.1917	6.27	5.66	5.54	5.43	5.32	5.20	5.09
20.0	84.64	20.75	7.09	62.57	.2659	4.61	86.83	18.60	6.38	47.33	.1871	6.38	6.25	6.12	6.00	5.87	5.74	5.61
30.0	84.67	20.51	10.51	157.9	.2577	4.74	86.86	18.34	9.44	103.8	.1760	6.67	9.24	9.05	8.85	8.66	8.47	8.27
16 3.0	81.15	35.56	1.74	3.96	.4470	1.93	84.00	33.29	1.65	3.00	.4140	2.20	1.63	1.61	1.60	1.58	1.56	1.55
4.0	82.66	30.25	2.01	4.83	.4354	2.46	85.26	28.10	1.88	3.97	.4015	2.86	1.86	1.84	1.81	1.79	1.77	1.75
5.0	83.28	27.52	2.31	6.43	.3912	2.89	85.78	25.38	2.14	5.19	.3681	3.41	2.11	2.08	2.05	2.02	2.00	1.97
6.0	83.60	25.92	2.62	8.35	.3598	3.16	86.06	23.75	2.42	6.65	.3094	3.87	2.38	2.34	2.31	2.27	2.23	2.20
7.0	83.79	24.89	2.95	10.61	.3372	3.40	86.22	22.70	2.70	8.35	.2809	4.25	2.66	2.61	2.57	2.53	2.48	2.44
8.0	83.91	24.20	3.28	13.30	.3206	3.58	86.32	21.98	2.99	10.30	.2596	4.56	2.94	2.89	2.84	2.79	2.74	2.69
10.0	84.05	23.34	3.96	19.39	.2966	3.85	86.44	21.09	3.60	14.94	.2310	5.04	3.53	3.47	3.40	3.34	3.27	3.21
12.0	84.13	22.86	4.66	26.94	.2814	4.02	86.51	20.58	4.22	20.60	.2135	5.37	4.14	4.06	3.98	3.90	3.82	3.74
14.0	84.17	22.56	5.37	35.85	.2709	4.13	86.54	20.27	4.85	27.27	.2021	5.61	4.75	4.66	4.57	4.47	4.38	4.29
16.0	84.20	22.37	6.09	46.12	.2711	4.21	86.57	20.06	5.49	34.97	.1945	5.78	5.38	5.27	5.16	5.05	4.95	4.84
18.0	84.22	22.23	6.81	57.76	.2671	4.27	86.59	19.91	6.13	43.68	.1888	5.91	6.01	5.88	5.76	5.64	5.52	5.40
20.0	84.24	22.13	7.53	70.76	.2641	4.31	86.60	19.81	6.78	53.42	.1848	6.00	6.64	6.50	6.37	6.23	6.09	5.96
30.0	84.27	21.90	11.19	156.3	.2569	4.42	86.63	19.56	10.04	117.5	.1749	6.25	9.83	9.62	9.42	9.21	9.00	8.80
17 3.0	80.46	36.88	1.80	3.80	.4820	1.88	83.56	34.36	1.69	3.18	.4573	2.15	1.67	1.66	1.64	1.62	1.60	1.58
4.0	82.11	31.52	2.09	5.22	.4225	2.37	84.92	29.16	1.96	4.26	.3861	2.78	1.92	1.90	1.87	1.85	1.83	1.80
5.0	82.79	28.80	2.41	7.01	.3800	2.74	85.49	26.45	2.23	5.62	.3546	3.31	2.19	2.16	2.13	2.10	2.07	2.04
6.0	83.14	27.22	2.74	9.17	.3504	3.02	85.78	24.85	2.52	7.25	.2977	3.74	2.48	2.44	2.40	2.36	2.33	2.29
7.0	83.34	26.21	3.09	11.70	.3293	3.24	85.96	23.82	2.83	9.16	.2709	4.09	2.78	2.73	2.69	2.64	2.59	2.55
8.0	83.47	25.53	3.45	14.62	.3140	3.41	86.07	23.12	3.14	11.35	.2511	4.38	3.09	3.03	2.98	2.92	2.87	2.82
10.0	83.62	24.70	4.18	21.58	.2938	3.64	86.19	22.26	3.79	16.57	.2248	4.82	3.72	3.65	3.58	3.51	3.44	3.37
12.0	83.71	24.23	4.92	30.08	.2818	3.79	86.26	21.76	4.45	22.93	.2088	5.11	4.36	4.28	4.19	4.11	4.02	3.94
14.0	83.75	23.94	5.68	40.12	.2741	3.89	86.31	21.46	5.12	30.44	.1984	5.32	5.02	4.92	4.82	4.72	4.62	4.52
16.0	83.79	23.75	6.44	51.69	.2690	3.95	86.33	21.26	5.80	39.10	.1914	5.47	5.68	5.57	5.45	5.34	5.22	5.11
18.0	83.81	23.62	7.21	64.80	.2653	4.00	86.35	21.12	6.49	48.91	.1865	5.57	6.35	6.22	6.09	5.96	5.83	5.70
20.0	83.82	23.52	7.98	79.46	.2627	4.04	86.36	21.02	7.17	59.87	.1829	5.66	7.03	6.88	6.73	6.59	6.44	6.30
30.0	83.86	23.30	11.86	175.8	.2563	4.13	86.39	20.78	10.64	132.0	.1740	5.87	10.42	10.20	9.98	9.76	9.54	9.32
18 3.0	79.73	38.26	1.86	4.07	.4680	1.82	83.10	35.47	1.74	3.37	.4417	2.10	1.72	1.70	1.68	1.66	1.64	1.62
4.0	81.54	32.82	2.17	5.63	.4103	2.29	84.57	30.24	2.01	4.57	.3721	2.71	1.99	1.96	1.93	1.91	1.88	1.86
5.0	82.28	30.11	2.51	7.62	.3700	2.63	85.19	27.55	2.31	6.07	.3225	3.21	2.28	2.24	2.21	2.18	2.14	2.11
6.0	82.66	28.54	2.87	10.03	.3421	2.89	85.50	25.97	2.63	7.89	.2874	3.62	2.58	2.54	2.50	2.46	2.42	2.38
7.0	82.98	27.55	3.24	12.86	.3224	3.09	85.69	24.96	2.95	10.01	.2622	3.95	2.90	2.85	2.80	2.75	2.70	2.65
8.0	83.02	26.88	3.62	16.11	.3082	3.24	85.81	24.27	3.29	12.45	.2437	4.21	3.23	3.17	3.11	3.05	3.00	2.94
10.0	83.18	26.07	4.39	23.90	.2897	3.45	85.94	23.43	3.98	18.28	.2194	4.60	3.90	3.83	3.75	3.68	3.60	3.53
12.0	83.27	25.61	5.19	33.41	.2788	3.58	86.02	22.96	4.68	25.39	.2047	4.87	4.59	4.50	4.41	4.32	4.23	4.14
14.0	83.32	25.33	5.99	44.63	.2718	3.66	86.06	22.66	5.39	33.78	.1953	5.05	5.29	5.18	5.07	4.97	4.86	4.76
16.0	83.36	25.15	6.80	57.58	.2671	3.72	86.09	22.47	6.11	43.46	.1890	5.18	5.99	5.87	5.74	5.62	5.50	5.38
18.0	83.38	25.02	7.61	72.25	.2639	3.76	86.11	22.33	6.84	54.42	.1845	5.27	6.70	6.56	6.42	6.28	6.15	6.01
20.0	83.40	24.93	8.43	88.65	.2615	3.79	86.12	22.24	7.57	66.67	.1812	5.34	7.41	7.26	7.10	6.95	6.79	6.64
30.0	83.43	24.71	12.54	196.5	.2557	3.87	86.16	22.01	11.24	147.2	.1733	5.52	11.00	10.77	10.53	10.30	10.07	9.84
19 3.0	78.96	39.69	1.92	4.34	.4550	1.76	82.63	36.60	1.79	3.57	.4271	2.05	1.77	1.74	1.72	1.70	1.68	1.66
4.0	80.95	34.17	2.25	6.06	.3994	2.20	84.22	31.34	2.08	4.88	.3592	2.64	2.05	2.02	1.99	1.97	1.94	1.91
5.0	81.73	31.43	2.61	8.26	.3810	2.53	84.87	28.67	2.40	6.64	.3319	3.12	2.36	2.32	2.29	2.25	2.22	2.18
6.0	82.16	29.89	2.99	10.93	.3547	2.77	85.21	27.10	2.75	8.55	.2782	3.50	2.69	2.64	2.60	2.55	2.51	2.47
7.0	82.40	28.91	3.38	14.07	.3363	2.99	85.41	26.11	3.08	10.90	.2545	3.80	3.03	2.97	2.92	2.87	2.81	2.76
8.0	82.50	28.29	3.79	17.69	.3252	3.08	85.54	25.44	3.44	13.61	.2372	4.05	3.37	3.31	3.25	3.19	3.13	3.07
10.0	82.73	27.46	4.61	26.35	.3068	3.27	85.69	24.62	4.17	20.08	.2147	4.40	4.09	4.01	3.93	3.85	3.77	3.69
12.0	82.82	27.01	5.45	36.91	.2962	3.38	85.76	24.15	4.91	27.97	.2012	4.63	4.81	4.72	4.62	4.53	4.43	4.34
14.0	82.88	26.74	6.30	49.39	.2898	3.46	85.81	23.87	5.67	37.29	.1930	4.79	5.55	5.44	5.32	5.21	5.10	4.99
16.0	82.91	26.56	7.15	63.79	.2856	3.51	85.84	23.69	6.43	48.03	.1868	4.91	6.30	6.16	6.03	5.91	5.78	5.65
18.0	82.94	26.44	8.01	80.10	.2826	3.54	85.86	23.56	7.19	60.21	.1838	4.99	7.04	6.90	6.75	6.60	6.46	6.31
20.0	82.96	26.35	8.86	98.33	.2804	3.57	85.88	23.46	7.96	73.81	.1816	5.05	7.80	7.63	7.47	7.31	7.14	6.98
30.0	83.00	26.14	13.22	218.3	.2762	3.64	85.91	23.24	11.84	163.3	.1726	5.21	11.99	11.34	11.09	10.84	10.60	10.35
20 3.0	76.14	41.18	1.98	4.63	.4429	1.69	82.15	37.76	1.84	3.77	.4136	1.99	1.81	1.79	1.77	1.74	1.72	1.70
4.0	80.33	35.59	2.33	6.52	.3894	2.12	83.89	32.46	2.15	5.21	.3474	2.57	2.12	2.08	2.05	2.02	1.99	1.97
5.0	81.20	32.82	2.71	8.94	.3529	2.43	84.56	29.80	2.48	7.04	.3016	3.02	2.44	2.41	2.37	2.33	2.29	2.25
6.0	81.64	31.27	3.11	11.88	.3282	2.65	84.92	28.26	2.84	9.25	.2700	3.38	2.79	2.74	2.70	2.65	2.60	2.56
7.0	81.90	30.30	3.53	15.35	.3110	2.81	85.13	27.28	3.21	11.84	.2476	3.66	3.15	3.09	3.04	2.98	2.92	2.87
8.0	82.06	29.65	3.96	19.34	.2988	2.93	85.27	26.62	3.58	14.82	.2315	3.89	3.52	3.45	3.39	3.32	3.26	3.19
10.0	82.25	28.87	4.83	28.91	.2831	3.10	85.42	25.82	4.36	21.96	.2106	4.21	4.27	4.19	4.10	4.02	3.94	3.85
12.0	82.36	28.44	5.71	40.59	.2739	3.20	85.51	25.37	5.14	30.67	.1982	4.42	5.04	4.94	4.83	4.73	4.63	4.53
14.0	82.42	28.17	6.61	54.39	.2681	3.27	85.56	25.09	5.94	40.96	.1903	4.56	5.82	5.70	5.58	5.46	5.34	5.22
16.0	82.46	28.00	7.51	70.51	.2642	3.31	85.59	24.91	6.74	52.82	.1850	4.66	6.60	6.46	6.32	6.19	6.05	5.92
18.0	82.48	27.88	8.42	88.35	.2615	3.34	85.61	24.79	7.55	66.27	.1813	4.73	7.39	7.23	7.08	6.92	6.77	6.62
20.0	82.50	27.79	9.32	108.2	.2596	3.37	85.63	24.70	8.36	81.29	.1786	4.78	8.18	8.01	7.83	7.66	7.49	7.32
30.0	82.55	27.58	13.80	241.1	.2548	3.42	85.67	24.48	12.45	180.1	.1721	4.92	12.17	11.90	11.64	11.38	11.13	10.87
21 3.0	77.27	42.75	2.04	4.94	.4316	1.63	81.64	38.96	1.89	3.98	.4009	1.94	1.86	1.84	1.81	1.79	1.76	1.74
4.0	79.68	36.98	2.41	6.99	.3803	2.04	83.48	33.61	2.21	5.55	.3566	2.50	2.18	2.15	2.12	2.08	2.05	2.02
5.0	80.62	34.23	2.81	9.63	.3496	2.33	84.23	30.90	2.57	7.55	.2926	2.93	2.53	2.49	2.45	2.40	2.36	2.32
6.0	81.10	32.66	3.24	12.88	.3223	2.53	84.61	29.42	2.95	9.97	.2626	3.27	2.90	2.84	2.79	2.74	2.69	2.64
7.0	81.38	31.72	3.68	16.69	.3062	2.68	84.84	28.46	3.34	12.82	.2416	3.53	3.27	3.21	3.15	3.09	3.04	2.98
8.0	81.56	31.08	4.13	21.08	.2949	2.79	84.99	27.81	3.73	16.09	.2265	3.73	3.66	3.59	3.52	3.45	3.39	3.32
10.0	81.77	30.31	5.05	31.60	.2804	2.94	85.15	27.03	4.54	25.93	.2070	4.02	4.45	4.37	4.28	4.19	4.10	4.02
12.0	81.87	29.88	5.98	44.45	.2719	3.03	85.24	26.59	5.37	33.49	.1956	4.21	5.26	5.15	5.05	4.94	4.84	4.73
14.0	81.94	29.62	6.92	59.63	.2666	3.09	85.30	26.32	6.21	44.79	.1883	4.34	6.08	5.95	5.83	5.70	5.58	5.45
16.0	81.98	29.45	7.87	77.15	.2630	3.13	85.33	26.15	7.05	57.83	.1834	4.43	6.90	6.76	6.61	6.47	6.33	6.19
18.0	82.01	29.33	8.82	96.99	.2606	3.15	85.35	26.02	7.90	72.59	.1800	4.49	7.73	7.57	7.40	7.24	7.08	6.92
20.0	82.03	29.24	9.77	119.2	.2588	3.18	85.37	25.94	8.75	89.10	.1776	4.54	8.56	8.38	8.20	8.02	7.84	7.66
30.0	82.08	29.04	14.56	265.1	.2549	3.23	85.41	25.73	13.02	197.7	.1730	4.66	12.74	12.47	12.19	11.92	11.65	11.38

TABLE I - OBLIQUE-SHOCK SOLUTIONS FOR UNSWEPT LEADING EDGES - Continued

		$\gamma_e = \gamma_\infty = 1.67$						$\gamma_e = \gamma_\infty = 1.40$						γ_e					
α, deg	M_∞	θ_s, deg	θ, deg	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	1.35	1.30	1.25	1.20	1.15	1.10
														M_n					
22	3.0	76.31	44.41	2.10	5.26	0.4209	1.56	81.11	40.19	1.94	4.21	.3890	1.89	1.91	1.88	1.86	1.83	1.80	1.78
	4.0	78.99	38.46	2.49	7.49	.3720	1.96	83.09	34.79	2.28	5.91	.3267	2.42	2.25	2.21	2.18	2.14	2.11	2.08
	5.0	80.02	35.68	2.92	10.39	.3390	2.23	83.89	32.13	2.66	8.08	.2845	2.84	2.61	2.57	2.53	2.48	2.44	2.40
	6.0	80.54	34.15	3.37	13.92	.3170	2.42	84.30	30.61	3.06	10.72	.2559	3.15	3.00	2.95	2.89	2.84	2.79	2.74
	7.0	80.84	33.17	3.83	18.09	.3020	2.56	84.54	29.66	3.46	13.85	.2361	3.40	3.40	3.33	3.27	3.21	3.15	3.08
	8.0	81.05	32.53	4.30	22.90	.2914	2.66	84.70	29.02	3.88	17.41	.2220	3.59	3.81	3.73	3.66	3.59	3.51	3.44
	10.0	81.26	31.77	5.26	34.42	.2780	2.79	84.88	28.25	4.73	25.97	.2039	3.85	4.64	4.54	4.45	4.36	4.27	4.18
	12.0	81.37	31.34	6.24	48.49	.2702	2.87	84.97	27.82	5.60	36.43	.1932	4.02	5.49	5.37	5.26	5.15	5.04	4.93
	14.0	81.44	31.09	7.23	65.12	.2653	2.92	85.03	27.56	6.48	48.78	.1865	4.13	6.34	6.21	6.08	5.95	5.82	5.69
	16.0	81.49	30.92	8.22	84.30	.2620	2.96	85.06	27.39	7.36	63.04	.1820	4.21	7.21	7.05	6.90	6.75	6.60	6.45
	18.0	81.52	30.80	9.22	106.0	.2598	2.98	85.09	27.27	8.25	79.18	.1789	4.27	8.07	7.90	7.73	7.56	7.39	7.22
	20.0	81.54	30.72	10.22	130.3	.2581	3.00	85.11	27.18	9.14	97.23	.1766	4.31	8.94	8.75	8.56	8.37	8.18	7.99
	30.0	81.60	30.52	15.24	290.1	.2542	3.04	85.15	26.98	13.61	216.0	.1712	4.41	13.32	13.03	12.74	12.45	12.17	11.89
23	3.0	75.26	46.17	2.16	5.61	.4109	1.49	80.55	41.46	1.99	4.44	.3779	1.83	1.96	1.93	1.90	1.87	1.85	1.82
	4.0	78.29	39.99	2.57	8.02	.3643	1.88	82.68	35.98	2.35	6.28	.3175	2.35	2.31	2.27	2.24	2.20	2.17	2.13
	5.0	79.38	37.17	3.02	11.17	.3330	2.13	83.54	33.33	2.75	8.64	.2771	2.74	2.70	2.65	2.61	2.56	2.51	2.47
	6.0	79.95	35.61	3.49	15.01	.3123	2.31	83.98	31.81	3.16	11.51	.2500	3.04	3.10	3.05	2.99	2.94	2.88	2.83
	7.0	80.28	34.64	3.98	19.56	.2982	2.43	84.24	30.87	3.59	14.88	.2313	3.27	3.52	3.46	3.39	3.32	3.26	3.19
	8.0	80.48	34.01	4.47	24.80	.2883	2.53	84.40	30.24	4.03	18.78	.2180	3.44	3.95	3.87	3.80	3.72	3.64	3.57
	10.0	80.72	33.25	5.48	37.36	.2759	2.65	84.59	29.49	4.92	28.10	.2011	3.69	4.82	4.72	4.63	4.53	4.43	4.34
	12.0	80.85	32.83	6.51	52.71	.2686	2.72	84.69	29.07	5.83	39.48	.1912	3.84	5.71	5.59	5.47	5.35	5.24	5.12
	14.0	80.93	32.58	7.54	70.84	.2641	2.77	84.75	28.81	6.75	52.93	.1850	3.94	6.60	6.46	6.33	6.19	6.05	5.92
	16.0	80.98	32.41	8.58	91.76	.2611	2.80	84.79	28.64	7.67	68.45	.1808	4.01	7.51	7.35	7.19	7.03	6.87	6.72
	18.0	81.01	32.30	9.62	115.5	.2590	2.82	84.82	28.52	8.60	86.03	.1779	4.06	8.41	8.23	8.05	7.87	7.70	7.52
	20.0	81.03	32.22	10.66	142.0	.2575	2.83	84.84	28.44	9.52	105.7	.1759	4.10	9.32	9.12	8.92	8.72	8.52	8.33
	30.0	81.09	32.02	15.91	316.3	.2539	2.87	84.88	28.24	14.20	234.9	.1708	4.19	13.89	13.59	13.28	12.98	12.69	12.39
24	3.0	74.08	48.08	2.23	5.98	.4013	1.42	79.96	42.78	2.04	4.68	.3674	1.77	2.01	1.98	1.95	1.92	1.89	1.86
	4.0	77.47	41.59	2.66	8.57	.3572	1.79	82.26	37.21	2.42	6.66	.3091	2.28	2.38	2.34	2.30	2.26	2.22	2.19
	5.0	78.71	38.71	3.13	11.98	.3276	2.04	83.18	34.54	2.84	9.21	.2703	2.65	2.78	2.73	2.69	2.64	2.59	2.54
	6.0	79.52	37.13	3.62	16.16	.3080	2.20	83.65	33.04	3.27	12.32	.2446	2.93	3.21	3.15	3.09	3.03	2.97	2.92
	7.0	79.68	36.16	4.13	21.09	.2948	2.32	83.92	32.10	3.72	15.98	.2269	3.15	3.65	3.58	3.51	3.44	3.37	3.30
	8.0	79.90	35.52	4.65	26.78	.2856	2.40	84.10	31.48	4.18	20.19	.2144	3.31	4.09	4.01	3.93	3.85	3.77	3.69
	10.0	80.16	34.77	5.70	40.45	.2740	2.51	84.30	30.73	5.11	30.30	.1986	3.53	5.01	4.90	4.80	4.70	4.60	4.50
	12.0	80.30	34.35	6.77	57.11	.2673	2.58	84.40	30.32	6.06	42.65	.1894	3.67	5.93	5.81	5.68	5.56	5.44	5.32
	14.0	80.36	34.10	7.85	76.81	.2631	2.62	84.47	30.07	7.01	57.23	.1836	3.76	6.87	6.72	6.57	6.43	6.29	6.15
	16.0	80.44	33.94	8.93	99.55	.2603	2.65	84.51	29.90	7.98	74.06	.1798	3.82	7.81	7.64	7.47	7.31	7.14	6.98
	18.0	80.47	33.82	10.02	125.3	.2584	2.67	84.54	29.79	8.94	93.13	.1771	3.87	8.75	8.56	8.37	8.19	8.00	7.82
	20.0	80.50	33.74	11.11	154.1	.2570	2.68	84.56	29.71	9.91	114.4	.1752	3.90	9.70	9.49	9.28	9.07	8.86	8.66
	30.0	80.56	33.55	16.58	343.6	.2537	2.72	84.61	29.51	14.78	254.6	.1705	3.98	14.46	14.14	13.82	13.51	13.20	12.89
25	3.0	72.71	50.19	2.30	6.39	.3920	1.34	79.53	44.14	2.09	4.93	.3576	1.72	2.06	2.02	1.99	1.96	1.93	1.90
	4.0	76.61	43.26	2.74	9.15	.3506	1.71	81.82	38.46	2.49	7.05	.3013	2.21	2.44	2.40	2.36	2.32	2.28	2.24
	5.0	77.99	40.30	3.23	12.83	.3226	1.94	82.80	35.78	2.92	9.80	.2642	2.57	2.87	2.82	2.77	2.71	2.66	2.62
	6.0	78.66	38.69	3.75	17.35	.3042	2.10	83.30	34.28	3.38	13.15	.2396	2.83	3.31	3.25	3.19	3.13	3.07	3.01
	7.0	79.05	37.72	4.28	22.69	.2918	2.21	83.59	33.35	3.85	17.11	.2229	3.03	3.77	3.70	3.62	3.55	3.48	3.41
	8.0	79.29	37.06	4.82	28.85	.2831	2.28	83.78	32.73	4.33	21.66	.2112	3.18	4.24	4.15	4.07	3.98	3.90	3.82
	10.0	79.57	36.32	5.92	43.63	.2725	2.38	83.99	31.99	5.30	32.58	.1964	3.38	5.19	5.08	4.97	4.87	4.76	4.66
	12.0	79.72	35.90	7.04	61.69	.2661	2.44	84.11	31.59	6.29	45.92	.1878	3.50	6.15	6.02	5.89	5.76	5.64	5.51
	14.0	79.81	35.65	8.16	83.04	.2622	2.48	84.18	31.34	7.28	61.68	.1824	3.59	7.13	6.97	6.82	6.67	6.52	6.37
	16.0	79.87	35.49	9.29	107.7	.2596	2.51	84.22	31.17	8.28	79.86	.1788	3.64	8.10	7.93	7.75	7.58	7.41	7.24
	18.0	79.91	35.37	10.42	135.6	.2578	2.52	84.25	31.06	9.29	100.5	.1763	3.68	9.09	8.89	8.69	8.50	8.31	8.11
	20.0	79.94	35.29	11.55	166.8	.2565	2.54	84.27	30.98	10.30	123.5	.1745	3.71	10.07	9.85	9.63	9.42	9.20	8.99
	30.0	80.00	35.10	17.25	372.0	.2535	2.57	84.32	30.79	15.36	275.0	.1702	3.79	15.02	14.69	14.36	14.04	13.71	13.39
26	3.0	71.05	52.59	2.38	6.89	.3828	1.26	78.66	45.55	2.14	5.18	.3484	1.66	2.11	2.07	2.04	2.00	1.97	1.94
	4.0	75.68	45.02	2.83	9.76	.3445	1.63	81.36	39.74	2.56	7.46	.2941	2.14	2.51	2.47	2.42	2.38	2.34	2.30
	5.0	77.21	41.99	3.34	13.72	.3180	1.85	82.41	37.04	3.01	10.42	.2585	2.48	2.90	2.90	2.85	2.79	2.74	2.69
	6.0	77.99	40.31	3.88	18.59	.3007	2.00	82.99	35.54	3.49	14.00	.2352	2.73	3.42	3.35	3.29	3.22	3.16	3.10
	7.0	78.38	39.32	4.44	24.36	.2890	2.10	83.25	34.61	3.98	18.27	.2194	2.91	3.90	3.82	3.74	3.66	3.59	3.51
	8.0	78.64	38.67	5.00	31.01	.2809	2.17	83.45	34.00	4.47	23.18	.2085	3.09	4.38	4.29	4.20	4.12	4.03	3.94
	10.0	78.95	37.91	6.14	46.97	.2708	2.26	83.68	33.27	5.49	34.94	.1944	3.23	5.37	5.26	5.14	5.03	4.92	4.82
	12.0	79.11	37.49	7.30	66.47	.2650	2.32	83.80	32.86	6.51	49.50	.1863	3.33	6.37	6.24	6.10	5.97	5.83	5.70
	14.0	79.21	37.24	8.47	89.52	.2614	2.35	83.87	32.62	7.55	66.28	.1813	3.42	7.38	7.22	7.07	6.91	6.75	6.60
	16.0	79.27	37.07	9.64	116.1	.2590	2.37	83.92	32.46	8.59	85.86	.1780	3.48	8.40	8.22	8.04	7.86	7.68	7.50
	18.0	79.31	36.96	10.82	146.3	.2573	2.39	83.95	32.35	9.63	108.1	.1757	3.51	9.42	9.21	9.01	8.81	8.61	8.41
	20.0	79.34	36.88	12.00	179.9	.2561	2.40	83.97	32.27	10.68	132.9	.1740	3.54	10.44	10.21	9.99	9.76	9.54	9.32
	30.0	79.41	36.68	17.92	401.6	.2533	2.43	84.03	32.08	15.95	296.0	.1699	3.60	15.58	15.24	14.89	14.56	14.22	13.89
27	3.0	68.85	55.57	2.47	7.41	.3733	1.16	77.92	47.03	2.20	5.46	.3396	1.60	2.16	2.12	2.08	2.05	2.01	1.98
	4.0	74.64	46.90	2.92	10.42	.3387	1.55	80.87	41.05	2.65	7.88	.2874	2.07	2.58	2.53	2.49	2.44	2.40	2.36
	5.0	76.37	43.68	3.45	14.66	.3138	1.76	82.00	38.32	3.10	11.05	.2534	2.39	3.04	2.98	2.93	2.87	2.82	2.76
	6.0	77.19	41.99	4.01	19.90	.2974	1.90	82.57	36.82	3.60	14.91	.2311	2.63	3.52	3.45	3.39	3.32	3.25	3.19
	7.0	77.66	40.97	4.59	26.10	.2865	1.99	82.90	35.89	4.10	19.48	.2162	2.80	4.02	3.94	3.86	3.78	3.70	3.62
	8.0	77.95	40.31	5.18	33.26	.2789	2.06	83.11	35.28	4.62	24.74	.2057	2.93	4.52	4.43	4.34	4.25	4.16	4.07
	10.0	78.28	39.54	6.37	50.44	.2694	2.14	83.35	34.55	5.67	37.37	.1926	3.10	5.55	5.43	5.32	5.20	5.09	4.97
	12.0	78.46	39.12	7.57	71.45	.2640	2.19	83.48	34.15	6.74	52.79	.1850	3.20	6.59	6.45	6.31	6.17	6.03	5.90
	14.0	78.56	38.86	8.78	96.27	.2606	2.22	83.56	33.91	7.81	71.01	.1803	3.27	7.64	7.47	7.31	7.15	6.98	6.82
	16.0	78.63	38.69	10.00	124.9	.2584	2.24	83.61	33.75	8.89	92.04	.1772	3.32	8.70	8.50	8.32	8.13	7.94	7.76
	18.0	78.68	38.58	11.25	157.4	.2569	2.26	83.64	33.64	9.97	115.9	.1750	3.35	9.75	9.54	9.33	9.11	8.91	8.70
	20.0	78.71	38.50	12.45	193.1	.2558	2.27	83.67	33.57	11.06	142.5	.1735	3.37	10.81	10.57	10.34	10.10	9.87	9.64
	30.0	78.79	38.31	18.60	482.3	.2531	2.30	83.72	33.38	16.51	317.7	.1697	3.43	16.14	15.78	15.42	15.07	14.72	14.38
28	3.0	64.37	60.74	2.62	8.53	.3602	1.01	77.13	48.59	2.25	5.74	.3313	1.54	2.21	2.17	2.13	2.09	2.06	2.02
	4.0	73.45	48.93	3.02	11.13	.3333	1.46	80.36	42.40	2.70	8.32	.2812	1.99	2.65	2.60	2.55	2.50	2.46	2.41
	5.0	75.43	45.50	3.57	15.66	.3098	1.67	81.57	39.63	3.19	11.70	.2486	2.31	3.13	3.07	3.01	2.95	2.89	2.83
	6.0	76.36	43.74	4.15	21.27	.2945	1.80	82.18	38.12	3.70	15.84	.2274	2.53	3.65	3.58	3.48	3.41	3.34	3.27
	7.0	76.87	42.69	4.75	27.93	.2842	1.89	82.53	37.19	4.23	20.72	.2152	2.69	4.14	4.06	3.97	3.89	3.81	3.73
	8.0	77.20	42.01	5.35	35.61	.2771	1.99	82.76	36.58	4.77	26.35	.2053	2.81	4.67	4.57	4.47	4.38	4.28	4.19
	10.0	77.56	41.22	6.59	54.07	.2682	2.03	83.01	35.86	5.86	34.87	.1910	2.97	5.73	5.61	5.49	5.37	5.25	5.13
	12.0	77.76	40.79	7.84	76.64	.2631	2.07	83.15	35.46	6.90	46.38	.1839	3.06	6.81	6.66	6.51	6.37	6.23	6.09
	14.0	77.87	40.53	9.10	103.3	.2600	2.10	83.23	35.22	8.07	75.89	.1794	3.12	7.90	7.72	7.55	7.38	7.21	7.05
	16.0	77.95	40.37	10.36	134.1	.2579	2.12	83.28	35.06	9.19	98.40	.1765	3.17	8.99	8.79	8.59	8.40	8.21	8.02
	18.0	78.00	40.25	11.63	169.0	.2565	2.14	83.32	34.95	10.31	123.9	.1745	3.20	10.08	9.86	9.64	9.42	9.20	8.99
	20.0	78.03	40.17	12.90	207.9	.2554	2.15	83.35	34.88	11.44	152.4	.1730	3.22	11.18	10.93	10.69	10.44	10.20	9.96
	30.0	78.12	39.97	19.27	484.4	.2530	2.17	83.41	34.69	17.08	340.0	.1695	3.27	16.69	16.32	15.95	15.58	15.22	14.86

TABLE I - OBLIQUE-SHOCK SOLUTIONS FOR UNSWEPT LEADING EDGES - Continued

		$\gamma_e = \gamma_\infty = 1.67$						$\gamma_e = \gamma_\infty = 1.40$						γ_e					
α, deg	M_∞	θ_s, deg	θ, deg	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	1.35	1.30	1.25	1.20	1.15	1.10
														M_n					
29	3.0							76.24	50.24	2.51	6.04	0.3254	1.47	2.26	2.22	2.18	2.14	2.10	2.06
	4.0	72.04	51.19	3.12	11.90	0.3280	1.37	79.81	45.79	2.77	8.77	.2754	1.96	2.71	2.66	2.61	2.56	2.51	2.47
	5.0	74.39	47.44	3.68	16.72	.3062	1.58	81.12	40.97	3.26	12.37	.2442	2.22	3.21	3.15	3.09	3.02	2.96	2.91
	6.0	75.44	45.08	4.29	22.72	.2917	1.70	81.77	39.44	3.81	16.78	.2240	2.43	3.73	3.66	3.58	3.51	3.43	3.36
	7.0	76.02	44.49	4.91	29.85	.2821	1.79	82.15	38.51	4.36	22.00	.2109	2.58	4.27	4.18	4.09	4.00	3.92	3.83
	8.0	76.38	43.79	5.54	38.06	.2754	1.84	82.39	37.90	4.91	28.01	.2013	2.69	4.81	4.71	4.61	4.51	4.41	4.31
	10.0	76.78	42.97	6.82	57.47	.2671	1.92	82.66	37.18	6.04	43.44	.1899	2.84	5.93	5.78	5.66	5.53	5.41	5.29
	12.0	77.00	42.65	8.11	83.06	.2623	1.96	82.86	36.78	7.19	66.07	.1828	2.93	7.03	6.87	6.72	6.57	6.42	6.27
	14.0	77.23	42.28	9.42	116.0	.2594	1.99	83.09	36.54	8.34	98.90	.1787	2.98	8.19	7.97	7.79	7.62	7.44	7.27
	16.0	77.21	42.09	10.73	143.6	.2574	2.00	82.99	36.39	9.49	134.9	.1759	3.02	9.28	9.07	8.87	8.67	8.47	8.27
	18.0	77.26	41.97	12.04	181.0	.2561	2.03	82.98	36.28	10.65	152.2	.1740	3.05	10.41	10.18	9.95	9.72	9.50	9.28
	20.0	77.30	41.89	13.35	222.8	.2551	2.03	83.01	36.20	11.81	162.6	.1726	3.07	11.55	11.29	11.03	10.78	10.53	10.28
	30.0	77.40	41.69	19.99	497.8	.2528	2.05	83.08	36.02	17.64	362.9	.1693	3.12	17.24	16.79	16.41	16.09	15.71	15.34
30	3.0							75.24	52.01	2.36	6.30	.3197	1.41	2.31	2.27	2.22	2.18	2.14	2.10
	4.0	70.28	53.61	3.23	12.76	.3228	1.27	79.23	49.22	2.84	9.14	.2700	1.90	2.78	2.73	2.67	2.62	2.57	2.52
	5.0	73.19	49.54	3.80	17.85	.3027	1.48	80.64	42.54	3.37	13.07	.2403	2.14	3.30	3.23	3.17	3.10	3.04	2.98
	6.0	74.41	47.53	4.43	24.26	.2942	1.60	81.34	40.79	3.92	17.76	.2209	2.33	3.84	3.76	3.68	3.60	3.53	3.45
	7.0	75.07	46.58	5.07	31.87	.2861	1.68	81.74	39.80	4.49	23.31	.2081	2.48	4.39	4.30	4.20	4.11	4.03	3.94
	8.0	75.47	45.65	5.72	40.68	.2758	1.74	82.00	39.24	5.06	29.71	.1988	2.58	4.95	4.84	4.74	4.64	4.53	4.43
	10.0	75.95	44.90	7.09	61.85	.2690	1.81	82.20	38.58	6.23	43.68	.1892	2.72	6.09	5.96	5.82	5.69	5.57	5.44
	12.0	76.17	44.54	8.39	87.74	.2646	1.85	82.44	38.12	7.41	63.86	.1819	2.80	7.24	7.08	6.92	6.77	6.61	6.46
	14.0	76.31	44.06	9.74	118.3	.2598	1.87	82.53	37.88	8.60	86.65	.1779	2.85	8.40	8.22	8.03	7.85	7.67	7.49
	16.0	76.40	43.89	11.09	153.6	.2570	1.89	82.59	37.73	9.79	111.7	.1754	2.89	9.57	9.35	9.14	8.93	8.73	8.52
	18.0	76.46	43.76	12.45	193.7	.2550	1.90	82.63	37.62	10.99	140.7	.1736	2.91	10.74	10.50	10.26	10.02	9.79	9.56
	20.0	76.51	43.68	13.81	238.4	.2539	1.91	82.66	37.54	12.19	173.1	.1725	2.93	11.91	11.64	11.38	11.11	10.86	10.60
	30.0	76.61	43.47	20.14	532.7	.2507	1.95	82.73	37.36	18.28	396.5	.1692	2.97	17.79	17.38	16.99	16.59	16.20	15.82
31	3.0							74.07	53.96	2.43	6.70	.3063	1.33	2.37	2.32	2.27	2.23	2.18	2.14
	4.0	67.72	57.23	3.36	13.90	.3172	1.15	78.60	46.71	2.91	9.72	.2650	1.78	2.85	2.79	2.74	2.68	2.63	2.58
	5.0	71.75	51.88	3.93	19.11	.2995	1.38	80.15	43.75	3.46	13.78	.2364	2.05	3.38	3.31	3.25	3.18	3.11	3.05
	6.0	73.23	49.69	4.57	25.91	.2868	1.50	80.89	42.17	4.03	18.76	.2186	2.24	3.94	3.86	3.78	3.70	3.62	3.54
	7.0	73.99	48.41	5.23	34.03	.2785	1.59	81.32	41.22	4.61	24.66	.2058	2.37	4.51	4.41	4.32	4.23	4.13	4.04
	8.0	74.46	47.60	5.91	43.44	.2734	1.64	81.59	40.60	5.21	31.46	.1974	2.47	5.09	4.98	4.87	4.76	4.66	4.55
	10.0	74.98	46.72	7.28	66.09	.2691	1.70	81.90	39.88	6.41	47.79	.1869	2.60	6.27	6.13	5.99	5.86	5.72	5.59
	12.0	75.25	46.34	8.67	93.72	.2669	1.74	82.06	39.48	7.65	67.75	.1810	2.67	7.46	7.29	7.12	6.96	6.80	6.65
	14.0	75.41	45.96	10.06	126.4	.2643	1.76	82.16	39.24	8.86	91.53	.1773	2.72	8.65	8.46	8.27	8.08	7.89	7.72
	16.0	75.51	45.77	11.46	164.2	.2566	1.78	82.22	39.06	10.09	118.5	.1749	2.76	9.86	9.63	9.41	9.20	8.98	8.77
	18.0	75.58	45.64	12.87	206.9	.2605	1.79	82.27	38.98	11.32	149.4	.1732	2.78	11.06	10.81	10.56	10.32	10.08	9.84
	20.0	75.63	45.55	14.28	254.7	.2596	1.80	82.30	38.90	12.56	183.8	.1720	2.79	12.27	11.99	11.70	11.44	11.18	10.91
	30.0	75.74	45.34	21.34	569.5	.2581	1.82	82.37	38.72	18.78	410.6	.1690	2.84	18.55	17.91	17.50	17.09	16.69	16.29
32	3.0							72.64	56.18	2.49	7.08	.3008	1.28	2.43	2.37	2.32	2.27	2.23	2.18
	4.0							77.91	48.26	2.98	10.23	.2662	1.70	2.92	2.86	2.80	2.74	2.69	2.63
	5.0	69.89	54.24	4.08	20.55	.2960	1.27	79.59	45.20	3.55	14.52	.2329	1.97	3.47	3.40	3.32	3.26	3.19	3.12
	6.0	71.79	52.01	4.73	27.72	.2844	1.40	80.46	43.56	4.14	19.86	.2154	2.15	4.05	3.96	3.87	3.79	3.71	3.63
	7.0	72.75	50.62	5.41	36.37	.2765	1.48	80.86	42.62	4.74	26.04	.2038	2.28	4.63	4.53	4.43	4.34	4.24	4.15
	8.0	73.29	49.76	6.11	46.35	.2710	1.53	81.15	41.99	5.35	33.26	.1958	2.37	5.23	5.12	5.00	4.89	4.78	4.67
	10.0	73.89	48.78	7.52	70.53	.2642	1.59	81.49	41.26	6.59	50.57	.1858	2.48	6.44	6.30	6.16	6.02	5.88	5.75
	12.0	74.20	48.27	8.95	100.1	.2603	1.63	81.66	40.86	7.85	71.73	.1802	2.55	7.67	7.50	7.32	7.16	6.99	6.83
	14.0	74.39	47.96	10.40	135.0	.2579	1.65	81.77	40.62	9.11	96.74	.1767	2.60	8.90	8.70	8.50	8.31	8.11	7.92
	16.0	74.50	47.76	11.85	175.5	.2563	1.67	81.84	40.46	10.36	123.6	.1744	2.63	10.14	9.91	9.68	9.46	9.24	9.03
	18.0	74.58	47.65	13.30	221.6	.2552	1.68	81.88	40.35	11.60	156.3	.1728	2.65	11.34	11.13	10.87	10.61	10.37	10.12
	20.0	74.64	47.55	14.76	272.0	.2544	1.68	81.91	40.28	12.95	194.9	.1717	2.67	12.63	12.34	12.09	11.77	11.50	11.25
	30.0	74.77	47.30	22.09	807.9	.2525	1.70	81.99	40.09	19.52	453.3	.1689	2.70	18.87	18.43	18.01	17.58	17.17	16.76
33	3.0							70.71	58.91	2.57	7.45	.2949	1.16	2.49	2.42	2.37	2.32	2.27	2.22
	4.0							77.15	49.88	3.06	10.75	.2597	1.62	2.99	2.93	2.86	2.80	2.74	2.69
	5.0	67.01	58.45	4.26	22.46	.2922	1.13	79.00	46.69	3.64	15.28	.2296	1.93	3.56	3.48	3.40	3.33	3.26	3.19
	6.0	69.95	54.79	4.90	29.81	.2821	1.28	79.88	44.93	4.25	20.86	.2149	2.06	4.15	4.06	3.97	3.88	3.80	3.72
	7.0	71.18	53.11	5.60	38.90	.2748	1.37	80.38	44.00	4.87	27.47	.2018	2.19	4.76	4.66	4.56	4.46	4.36	4.27
	8.0	71.97	52.13	6.31	49.63	.2697	1.42	80.69	43.41	5.50	35.10	.1942	2.28	5.37	5.25	5.13	5.02	4.90	4.79
	10.0	72.61	51.03	7.78	75.37	.2655	1.48	81.05	42.67	6.78	53.42	.1845	2.37	6.62	6.47	6.32	6.18	6.04	5.90
	12.0	72.99	50.47	9.22	106.9	.2597	1.52	81.24	42.26	8.07	71.82	.1795	2.44	7.88	7.70	7.52	7.35	7.18	7.01
	14.0	73.26	50.13	10.74	144.2	.2574	1.54	81.35	42.02	9.37	102.3	.1768	2.48	9.15	8.94	8.73	8.53	8.33	8.14
	16.0	73.54	49.91	12.24	187.2	.2559	1.56	81.42	41.86	10.68	152.8	.1748	2.51	10.43	10.19	9.95	9.72	9.49	9.27
	18.0	73.44	49.77	13.74	236.0	.2549	1.57	81.47	41.75	11.99	167.4	.1735	2.53	11.71	11.45	11.17	10.91	10.65	10.40
	20.0	73.50	49.66	15.24	290.5	.2542	1.57	81.50	41.67	13.30	206.1	.1724	2.54	12.99	12.69	12.39	12.10	11.81	11.53
	30.0	73.66	49.42	22.73	649.1	.2524	1.59	81.59	41.49	19.87	465.7	.1698	2.58	19.41	18.99	18.51	18.07	17.65	17.23
34	3.0							66.79	63.07	2.69	8.27	.2819	1.00	2.56	2.48	2.42	2.36	2.31	2.27
	4.0							76.50	51.61	3.13	11.30	.2515	1.55	3.06	2.99	2.92	2.86	2.80	2.74
	5.0							78.36	48.24	3.73	16.06	.2285	1.80	3.64	3.56	3.48	3.41	3.33	3.26
	6.0	67.07	58.61	5.12	32.57	.2799	1.14	79.33	46.58	4.35	21.99	.2106	1.97	4.25	4.16	4.06	3.97	3.89	3.80
	7.0	69.08	56.17	5.81	42.05	.2731	1.24	79.87	45.51	4.99	28.95	.2001	2.08	4.89	4.77	4.66	4.55	4.45	4.35
	8.0	70.06	54.91	6.56	53.35	.2684	1.30	80.20	44.86	5.64	36.99	.1928	2.16	5.53	5.39	5.26	5.14	5.03	4.91
	10.0	71.03	53.59	8.05	80.79	.2632	1.37	80.59	44.10	6.96	56.34	.1839	2.27	6.80	6.64	6.48	6.34	6.19	6.05
	12.0	71.50	52.95	9.55	114.4	.2591	1.40	80.79	43.69	8.29	80.60	.1789	2.33	8.09	7.90	7.72	7.54	7.37	7.19
	14.0	71.78	52.59	11.11	154.5	.2570	1.43	80.91	43.45	9.63	109.0	.1757	2.37	9.40	9.18	8.96	8.75	8.55	8.35
	16.0	71.95	52.36	12.66	200.2	.2556	1.44	80.99	43.29	10.97	140.2	.1736	2.39	10.71	10.46	10.21	9.97	9.74	9.51
	18.0	72.06	52.13	14.21	252.3	.2546	1.45	81.04	43.14	12.31	176.3	.1722	2.41	12.02	11.74	11.46	11.19	10.93	10.67
	20.0	72.14	52.02	15.76	310.6	.2540	1.46	81.06	43.10	13.66	217.7	.1711	2.42	13.34	13.03	12.72	12.42	12.13	11.84
	30.0	72.33	51.74	23.54	795.9	.2525	1.47	81.17	42.91	20.43	548.6	.1687	2.46	19.94	19.47	19.01	18.57	18.12	17.68
35	3.0													2.64	2.56	2.47	2.41	2.35	2.31
	4.0							70.50	58.49	3.21	11.98	.2479	1.46	3.15	3.06	2.99	2.92	2.86	2.80
	5.0							77.66	49.88	3.82	16.86	.2257	1.72	3.73	3.64	3.56	3.48	3.41	3.33
	6.0							78.78	46.67	4.46	23.08	.2085	1.86	4.36	4.26	4.16	4.07	3.98	3.89
	7.0	64.08	62.52	6.15	47.11	.2767	1.04	79.51	47.03	5.10	30.45	.1964	1.99	5.00	4.88	4.77	4.66	4.56	4.45
	8.0	67.28	58.73	6.84	56.24	.2670	1.19	79.68	46.35	5.77	38.43	.1883	2.06	5.65	5.52	5.39	5.27	5.15	5.03
	10.0	68.83	56.77	8.30	87.28	.2610	1.25	80.09	45.45	7.22	59.34	.1810	2.16	6.97	6.81	6.65	6.49	6.34	6.19
	12.0	69.52	55.90	9.64	125.5	.2585	1.28	80.31	44.93	8.51	82.09	.1782	2.22	8.30	8.12	7.92	7.73	7.55	7.37
	14.0	69.90	55.41	11.02	169.9	.2568	1.30	80.44	44.61	9.86	115.6	.1762	2.26	9.64	9.43	9.19	8.98	8.77	8.56
	16.0	70.14	55.10	12.42	219.2	.2555	1.32	80.52	44.39	11.20	147.8	.1748	2.28	10.96	10.71	10.47	10.23	9.99	9.75
	18.0	70.29	54.86	13.83	271.0	.2544	1.33	80.58	44.23	12.57	186.4	.1739	2.30	12.34	12.05	11.76	11.48	11.23	10.94
	20.0	70.40	54.73	15.23	333.5	.2537	1.33	80.62	44.13	14.03	229.5	.1729	2.31	13.83	13.51	13.20	12.74	12.43	12.14
	30.0	70.65	54.42	24.46	744.4	.2522	1.35	80.72	44.00	20.98	615.1	.1696	2.34	20.47	19.98	19.50	19.04	18.58	18.14

TABLE I - OBLIQUE-SHOCK SOLUTIONS FOR UNSWEPT LEADING EDGES - Continued

	$\gamma_e = \gamma_\infty = 1.67$						$\gamma_e = \gamma_\infty = 1.40$						γ_e					
α, M_∞	θ_s,	θ,	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s,	θ,	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	1.35	1.30	1.25	1.20	1.15	1.10
deg	deg	deg					deg	deg					M_n					
36 5.0														2.61	2.53	2.46	2.40	2.35
4.0							74.16	55.50	3.30	12.51	.2434	1.38	3.20	3.12	3.05	2.98	2.92	2.85
5.0							76.87	51.56	3.92	17.73	.2210	1.65	3.82	3.73	3.64	3.56	3.48	3.40
6.0							78.06	49.67	4.57	24.24	.2065	1.79	4.46	4.35	4.25	4.16	4.06	3.97
7.0							78.70	48.58	5.25	31.98	.1969	1.89	5.12	5.00	4.88	4.77	4.66	4.55
8.0							79.10	47.89	5.93	40.95	.1903	1.96	5.79	5.65	5.52	5.39	5.27	5.14
10.0							79.55	47.09	7.32	62.42	.1822	2.06	7.14	6.97	6.81	6.65	6.49	6.34
12.0	65.93	60.48	10.44	136.1	0.2578	1.10	79.79	46.66	8.73	88.69	.1776	2.11	8.51	8.31	8.11	7.92	7.73	7.55
14.0	66.82	59.48	12.06	181.7	.2561	1.14	79.95	46.40	10.14	119.8	.1748	2.15	9.89	9.65	9.42	9.20	8.98	8.76
16.0	67.28	58.96	13.71	234.6	.2549	1.16	80.02	46.25	11.59	155.6	.1729	2.17	11.27	11.00	10.73	10.48	10.23	9.99
18.0	67.57	58.61	15.37	293.1	.2541	1.17	80.06	46.12	12.97	196.2	.1716	2.18	12.65	12.34	12.05	11.76	11.48	11.21
20.0	67.77	58.36	17.05	362.6	.2535	1.18	80.13	46.04	14.40	241.6	.1707	2.20	14.04	13.70	13.37	13.05	12.74	12.44
30.0	68.19	57.87	25.41	807.6	.2541	1.21	80.25	45.84	21.52	540.5	.1685	2.22	20.99	20.48	19.99	19.51	19.04	18.58
37 3.0														2.72	2.65	2.61	2.45	2.39
4.0							72.70	57.44	3.59	15.21	.2393	1.28	3.28	3.19	3.11	3.04	2.97	2.91
5.0							75.98	55.57	4.01	18.62	.2184	1.54	3.91	3.81	3.72	3.63	3.55	3.47
6.0							77.31	54.35	4.69	25.45	.2046	1.69	4.57	4.45	4.35	4.25	4.15	4.06
7.0							78.04	53.61	5.38	33.58	.1950	1.80	5.24	5.11	4.99	4.88	4.76	4.65
8.0							78.48	53.08	6.06	42.99	.1882	1.87	5.91	5.76	5.62	5.51	5.38	5.26
10.0							78.97	52.45	7.51	65.96	.1815	1.96	7.32	7.14	6.97	6.80	6.64	6.48
12.0							79.23	52.20	8.95	95.21	.1771	2.01	8.72	8.51	8.30	8.10	7.91	7.72
14.0							79.38	52.04	10.39	129.9	.1744	2.04	10.13	9.88	9.64	9.41	9.19	8.97
16.0							79.48	51.93	11.85	169.6	.1726	2.06	11.55	11.26	10.99	10.73	10.47	10.22
18.0							79.55	51.85	13.30	214.3	.1714	2.08	12.97	12.65	12.34	12.04	11.76	11.47
20.0							79.60	51.79	14.76	264.0	.1705	2.09	14.39	14.03	13.69	13.36	13.04	12.73
30.0							79.73	51.66	22.07	568.1	.1684	2.11	21.51	20.98	20.47	19.98	19.50	19.03
38 5.0														2.66	2.59	2.49	2.43	
4.0							70.50	60.83	3.49	14.06	.2350	1.36	3.36	3.26	3.16	3.10	3.03	2.96
5.0							74.93	57.51	4.11	19.57	.2159	1.60	4.00	3.89	3.80	3.71	3.62	3.54
6.0							76.46	55.14	4.80	26.72	.2029	1.75	4.67	4.55	4.44	4.34	4.24	4.14
7.0							77.39	53.91	5.51	35.24	.1941	1.86	5.36	5.23	5.10	4.98	4.86	4.75
8.0							77.99	53.15	6.23	45.11	.1881	1.93	6.07	5.91	5.77	5.63	5.50	5.37
10.0							78.53	52.27	7.69	68.84	.1808	2.02	7.49	7.30	7.13	6.96	6.79	6.63
12.0							78.81	51.90	9.17	97.86	.1766	2.07	8.93	8.71	8.49	8.29	8.09	7.90
14.0							78.98	51.68	10.65	132.2	.1740	2.10	10.37	10.11	9.86	9.63	9.40	9.17
16.0							79.09	51.53	12.14	171.7	.1723	2.12	11.83	11.53	11.25	10.97	10.71	10.45
18.0							79.16	51.43	13.63	216.4	.1712	2.13	13.28	12.95	12.63	12.32	12.02	11.73
20.0							79.21	51.35	15.13	266.1	.1703	2.14	14.74	14.37	14.01	13.67	13.34	13.02
30.0							79.34	51.19	22.62	596.6	.1683	2.16	22.03	21.48	20.96	20.44	19.95	19.46
39 5.0																2.62	2.54	2.47
4.0													3.42	3.33	3.24	3.16	3.09	3.01
5.0							73.65	57.57	4.22	20.61	.2135	1.55	4.09	3.98	3.87	3.78	3.69	3.61
6.0							75.50	55.06	4.92	28.06	.2011	1.71	4.78	4.65	4.54	4.43	4.32	4.22
7.0							76.44	53.72	5.64	36.98	.1928	1.82	5.49	5.34	5.21	5.09	4.96	4.85
8.0							77.00	52.90	6.38	47.35	.1871	1.89	6.21	6.05	5.90	5.75	5.62	5.48
10.0							77.61	51.97	7.88	72.21	.1801	1.98	7.66	7.47	7.28	7.11	6.93	6.77
12.0							77.93	51.47	9.39	102.7	.1761	2.03	9.14	8.90	8.68	8.47	8.26	8.07
14.0							78.12	51.18	10.91	138.6	.1737	2.06	10.62	10.35	10.09	9.84	9.60	9.37
16.0							78.24	50.99	12.43	180.2	.1721	2.08	12.10	11.79	11.50	11.22	10.94	10.68
18.0							78.32	50.86	13.96	227.2	.1709	2.09	13.59	13.24	12.91	12.60	12.29	11.99
20.0							78.37	50.77	15.49	279.9	.1701	2.10	15.08	14.70	14.33	13.98	13.64	13.31
30.0							78.51	50.56	23.17	626.0	.1682	2.12	22.59	21.98	21.43	20.90	20.39	19.89
40 3.0																2.69	2.59	2.51
4.0													3.56	3.41	3.31	3.22	3.14	3.07
5.0							71.87	60.26	4.54	21.82	.2109	1.23	4.18	4.06	3.95	3.85	3.76	3.67
6.0							74.52	57.19	5.04	29.90	.1994	1.40	4.89	4.75	4.63	4.51	4.41	4.30
7.0							75.45	55.67	5.78	38.82	.1916	1.50	5.61	5.46	5.32	5.19	5.06	4.94
8.0							76.10	54.77	6.53	49.65	.1862	1.57	6.35	6.18	6.02	5.87	5.73	5.59
10.0							76.80	53.76	8.07	75.72	.1795	1.66	7.84	7.63	7.44	7.25	7.08	6.91
12.0							77.16	53.23	9.61	107.6	.1757	1.70	9.34	9.10	8.87	8.65	8.44	8.23
14.0							77.37	52.92	11.17	145.4	.1733	1.73	10.86	10.57	10.31	10.05	9.81	9.57
16.0							77.50	52.72	12.75	188.9	.1718	1.74	12.38	12.05	11.75	11.46	11.18	10.91
18.0							77.59	52.58	14.30	238.3	.1707	1.76	13.90	13.54	13.19	12.87	12.55	12.25
20.0							77.66	52.48	15.86	293.4	.1700	1.77	15.43	15.02	14.64	14.28	13.93	13.59
30.0							77.81	52.25	25.72	686.4	.1681	1.79	25.07	24.47	21.90	21.35	20.83	20.32
41 3.0																	2.64	2.56
4.0														3.50	3.38	3.28	3.20	3.12
5.0							68.40	64.66	4.52	23.66	.2075	1.09	4.29	4.15	4.03	3.93	3.83	3.74
6.0							72.77	59.68	5.18	31.13	.1977	1.29	5.00	4.85	4.72	4.60	4.49	4.38
7.0							74.23	57.86	5.93	40.82	.1904	1.40	5.74	5.57	5.43	5.29	5.16	5.04
8.0							75.02	56.82	6.70	52.13	.1855	1.46	6.49	6.31	6.14	5.99	5.84	5.70
10.0							75.85	55.69	8.26	79.43	.1789	1.55	8.01	7.79	7.59	7.40	7.22	7.05
12.0							76.27	55.11	9.84	112.9	.1753	1.59	9.55	9.29	9.05	8.83	8.61	8.40
14.0							76.51	54.77	11.44	152.4	.1730	1.62	11.10	10.80	10.52	10.26	10.01	9.76
16.0							76.67	54.55	13.05	198.0	.1716	1.64	12.66	12.31	12.00	11.70	11.41	11.13
18.0							76.77	54.40	14.64	249.7	.1706	1.65	14.21	13.83	13.47	13.13	12.81	12.50
20.0							76.84	54.29	16.24	307.5	.1698	1.66	15.77	15.35	14.99	14.58	14.22	13.87
30.0							77.01	54.05	24.29	687.9	.1681	1.68	23.59	22.99	22.36	21.80	21.26	20.74
42 3.0																	2.70	2.60
4.0														3.60	3.45	3.34	3.25	3.17
5.0													4.40	4.24	4.11	4.00	3.90	3.81
6.0							70.50	65.10	5.35	33.24	.1998	1.14	5.12	4.96	4.81	4.69	4.57	4.46
7.0							72.00	60.43	6.09	43.10	.1891	1.27	5.87	5.69	5.54	5.39	5.26	5.13
8.0							73.00	59.10	6.87	54.87	.1815	1.36	6.65	6.44	6.27	6.11	5.96	5.81
10.0							74.70	57.62	8.46	83.41	.1735	1.44	8.19	7.96	7.75	7.55	7.36	7.18
12.0							75.21	57.14	10.08	118.4	.1749	1.48	9.76	9.49	9.24	9.00	8.78	8.56
14.0							75.50	56.77	11.71	159.8	.1727	1.51	11.33	11.03	10.74	10.46	10.20	9.95
16.0							75.68	56.53	13.35	207.7	.1713	1.53	12.94	12.57	12.24	11.93	11.63	11.35
18.0							75.80	56.36	14.99	261.9	.1704	1.54	14.55	14.12	13.75	13.40	13.06	12.74
20.0							75.88	56.23	16.63	322.4	.1697	1.55	16.12	15.67	15.26	14.87	14.50	14.14
30.0							76.08	55.97	24.86	721.1	.1680	1.57	24.11	23.44	22.82	22.24	21.69	21.15

TABLE I - OBLIQUE-SHOCK SOLUTIONS FOR UNSWEPT LEADING EDGES - Continued

	$\gamma_e = \gamma_\infty = 1.67$						$\gamma_e = \gamma_\infty = 1.40$						γ_e					
α, M_∞ deg	θ_s, deg	θ, deg	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	1.35	1.30	1.25	1.20	1.15	1.10
													M_n					
43 3.0																		2.65
4.0															3.53	3.41	3.31	3.23
5.0														4.33	4.19	4.07	3.97	3.87
6.0													5.24	5.06	4.91	4.78	4.66	4.54
7.0							69.73	64.28	6.31	46.24	0.1876	1.11	6.00	5.81	5.64	5.49	5.36	5.23
8.0							71.68	62.10	7.07	58.15	.1835	1.21	6.78	6.57	6.39	6.22	6.07	5.92
10.0							73.19	60.31	8.69	87.89	.1777	1.31	8.37	8.12	7.90	7.69	7.50	7.32
12.0							73.86	59.50	10.34	124.5	.1745	1.36	9.98	9.68	9.42	9.18	8.95	8.73
14.0							74.22	59.03	12.00	168.0	.1724	1.39	11.60	11.26	10.95	10.67	10.40	10.14
16.0							74.45	58.79	13.68	218.1	.1711	1.41	13.22	12.83	12.49	12.16	11.86	11.56
18.0							74.60	58.55	15.36	274.9	.1702	1.42	14.85	14.41	14.02	13.66	13.32	12.99
20.0							74.71	58.42	17.04	338.5	.1695	1.43	16.47	16.00	15.56	15.16	14.78	14.41
30.0							74.96	58.10	25.47	796.6	.1680	1.46	24.64	23.93	23.28	22.68	22.11	21.56
44 3.0																		2.70
4.0															3.62	3.47	3.37	3.28
5.0														4.44	4.27	4.15	4.04	3.94
6.0													5.41	5.17	5.00	4.86	4.74	4.62
7.0													6.16	5.93	5.75	5.60	5.45	5.32
8.0													6.95	6.71	6.51	6.34	6.17	6.02
10.0							70.75	63.74	8.97	93.65	.1770	1.15	8.56	8.29	8.05	7.84	7.64	7.45
12.0							71.90	62.44	10.64	131.9	.1740	1.22	10.20	9.88	9.60	9.35	9.11	8.88
14.0							72.45	61.80	12.34	177.4	.1721	1.26	11.85	11.49	11.16	10.87	10.59	10.33
16.0							72.78	61.41	14.05	230.1	.1709	1.28	13.51	13.09	12.73	12.39	12.08	11.78
18.0							73.00	61.15	15.77	289.9	.1700	1.29	15.17	14.71	14.30	13.92	13.56	13.23
20.0							73.14	60.98	17.49	356.7	.1694	1.31	16.84	16.32	15.87	15.45	15.05	14.68
30.0							73.48	60.58	26.13	796.4	.1679	1.33	25.18	24.41	23.73	23.11	22.52	21.96
45 3.0																		2.77
4.0																3.54	3.42	3.33
5.0														4.60	4.36	4.22	4.11	4.00
6.0														5.28	5.10	4.99	4.82	4.70
7.0													6.30	6.05	5.86	5.70	5.55	5.41
8.0													7.13	6.89	6.68	6.49	6.28	6.13
10.0													8.77	8.45	8.20	7.98	7.77	7.58
12.0													10.44	10.08	9.78	9.52	9.27	9.04
14.0													12.13	11.72	11.37	11.07	10.78	10.51
16.0							69.91	65.67	14.08	247.8	.1706	1.08	13.82	13.36	12.97	12.62	12.29	11.99
18.0							70.10	65.09	16.32	310.6	.1698	1.11	15.51	15.00	14.57	14.17	13.81	13.46
20.0							70.44	64.68	18.06	381.1	.1692	1.13	17.21	16.65	16.17	15.73	15.33	14.94
30.0							71.11	63.94	26.99	847.0	.1678	1.17	25.74	24.90	24.19	23.54	22.93	22.35
46 4.0																3.62	3.48	3.38
5.0															4.46	4.30	4.17	4.06
6.0														5.42	5.20	5.04	4.90	4.77
7.0														6.19	5.97	5.79	5.64	5.50
8.0														6.99	6.76	6.56	6.34	6.23
10.0													9.02	8.63	8.30	8.12	7.91	7.71
12.0													10.71	10.28	9.97	9.69	9.43	9.19
14.0													12.43	11.99	11.59	11.23	10.97	10.69
16.0													14.15	13.62	13.21	12.84	12.51	12.19
18.0													15.89	15.30	14.84	14.43	14.09	13.69
20.0													17.62	16.96	16.47	16.01	15.59	15.20
30.0													26.34	25.40	24.63	23.96	23.33	22.74
47 4.0																	3.54	3.43
5.0															4.57	4.37	4.24	4.13
6.0															5.30	5.12	4.98	4.85
7.0														6.36	6.08	5.89	5.73	5.58
8.0														7.15	6.88	6.68	6.49	6.33
10.0														8.81	8.51	8.26	8.04	7.83
12.0														10.50	10.15	9.86	9.59	9.35
14.0													12.89	12.20	11.80	11.46	11.15	10.87
16.0													14.59	13.90	13.40	13.02	12.72	12.39
18.0													16.30	15.61	15.11	14.68	14.29	13.92
20.0													18.13	17.32	16.77	16.29	15.86	15.45
30.0													27.05	25.90	25.08	24.38	23.73	23.12
48 4.0																	3.61	3.49
5.0																4.46	4.31	4.19
6.0															5.42	5.21	5.06	4.92
7.0															6.20	5.99	5.82	5.67
8.0														7.38	7.01	6.79	6.60	6.43
10.0														9.02	8.66	8.40	8.17	7.96
12.0														10.73	10.33	10.02	9.75	9.50
14.0														12.46	12.01	11.65	11.34	11.04
16.0														14.20	13.69	13.29	12.93	12.59
18.0														15.94	15.38	14.93	14.52	14.15
20.0														17.68	17.07	16.57	16.12	15.70
30.0														26.44	25.53	24.79	24.12	23.50
49 4.0																	3.69	3.54
5.0																4.55	4.38	4.25
6.0															5.53	5.30	5.14	4.99
7.0															6.34	6.10	5.91	5.75
8.0															7.15	6.90	6.70	6.52
10.0															8.81	8.54	8.30	8.08
12.0														11.05	10.52	10.19	9.90	9.64
14.0														12.77	12.23	11.84	11.52	11.21
16.0														14.49	13.94	13.51	13.13	12.79
18.0														16.31	15.66	15.17	14.75	14.37
20.0														18.04	17.38	16.84	16.38	15.96
30.0														27.05	26.09	25.30	24.60	23.96

TABLE I - OBLIQUE-SHOCK SOLUTIONS FOR UNSWEPT LEADING EDGES - Continued

	$\gamma_e = \gamma_\infty = 1.67$						$\gamma_e = \gamma_\infty = 1.40$						γ_e					
α, M_∞ deg	θ_s, deg	θ, deg	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	1.35	1.30	1.25	1.20	1.15	1.10
													M_n					
0 4.0																		
5.0																		
6.0																		
7.0																		
8.0																		
10.0																		
12.0																		
14.0																		
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TABLE I - OBLIQUE-SHOCK SOLUTIONS FOR UNSWEPT LEADING EDGES - Concluded

	$\gamma_e = \gamma_\infty = 1.67$						$\gamma_e = \gamma_\infty = 1.40$						γ_e					
α, deg M_∞	θ_s, deg	θ, deg	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	1.35	1.30	1.25	1.20	1.15	1.10
													M_n					
57 6.0																		5.56
7.0																		6.40
8.0																	7.57	7.25
10.0																	9.51	8.98
12.0																	11.10	10.73
14.0																	12.90	12.48
16.0																	14.71	14.23
18.0																	16.52	15.99
20.0																	18.33	17.75
30.0																	27.43	26.57
58 6.0																		5.64
7.0																		6.48
8.0																		7.34
10.0																	9.48	9.09
12.0																	11.27	10.85
14.0																	13.09	12.62
16.0																	14.92	14.40
18.0																	16.75	16.16
20.0																	18.59	17.96
30.0																	27.80	26.88
59 6.0																		5.75
7.0																		6.56
8.0																		7.43
10.0																		9.19
12.0																	11.92	10.98
14.0																	13.51	12.77
16.0																	15.16	14.56
18.0																	17.01	16.36
20.0																	18.87	18.16
30.0																	28.20	27.19
60 7.0																		6.66
8.0																		7.52
10.0																		9.30
12.0																		11.10
14.0																		12.93
16.0																		14.75
18.0																		16.54
20.0																		18.36
30.0																	28.75	27.49
61 8.0																		7.65
10.0																		9.41
12.0																		11.23
14.0																		13.05
16.0																		14.89
18.0																		16.73
20.0																		18.57
30.0																		27.78
62 10.0																		9.53
12.0																		11.36
14.0																		13.20
16.0																		15.06
18.0																		16.91
20.0																		18.77
30.0																		28.08
63 12.0																		11.50
14.0																		13.36
16.0																		15.23
18.0																		17.10
20.0																		18.96
30.0																		28.39
64 14.0																		13.57
16.0																		15.45
18.0																		17.31
20.0																		19.21
30.0																		28.71
65 30.0																		29.15

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES

(a) $\epsilon_p = 75°$; $\Gamma = 0°$; $\epsilon_r = 0°$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	2.07	75.01	3.0	74.97	21.04	1.78	2.01	74.81	1.20	.8967	2.86	74.99	20.87	1.07	2.01	74.81	1.17	.8960	2.90
			4.0	74.98	15.97	1.10	2.00	74.87	1.27	.8690	3.78	75.00	15.82	1.09	2.00	74.87	1.22	.8678	3.85
			5.0	74.99	13.01	1.13	2.00	74.89	1.33	.8419	4.68	75.00	12.86	1.11	2.00	74.90	1.28	.8401	4.79
			6.0	74.99	11.07	1.15	2.00	74.91	1.41	.8157	5.56	75.00	10.91	1.14	2.00	74.92	1.34	.8131	5.72
			7.0	74.99	9.69	1.18	2.00	74.93	1.49	.7906	6.43	75.00	9.53	1.16	2.00	74.93	1.40	.7872	6.63
			8.0	74.99	8.66	1.21	2.00	74.94	1.57	.7666	7.27	75.00	8.50	1.18	2.00	74.94	1.47	.7623	7.53
			10.0	74.99	7.24	1.26	2.00	74.95	1.74	.7220	8.89	75.00	7.08	1.23	2.00	74.95	1.60	.7156	9.30
			12.0	74.99	6.31	1.32	2.00	74.96	1.93	.6815	10.44	75.00	6.14	1.28	2.00	74.96	1.75	.6727	11.01
			14.0	74.99	5.65	1.38	2.00	74.97	2.13	.6449	11.92	75.00	5.48	1.34	2.00	74.97	1.92	.6336	12.67
			16.0	74.99	5.17	1.44	2.00	74.97	2.35	.6118	13.32	75.00	4.98	1.39	2.00	74.97	2.09	.5978	14.28
			18.0	74.99	4.79	1.50	2.00	74.97	2.58	.5819	14.66	75.00	4.61	1.45	2.00	74.98	2.27	.5651	15.85
			20.0	74.99	4.50	1.57	2.00	74.98	2.83	.5549	15.92	75.00	4.31	1.50	2.00	74.98	2.47	.5353	17.36
			30.0	74.99	3.67	1.92	2.00	74.98	4.36	.4543	21.29	75.00	3.46	1.81	2.00	74.99	3.65	.4212	24.15
4	4.14	75.04	3.0	74.89	22.73	1.16	4.02	74.63	1.43	.8085	2.72	74.96	22.37	1.14	4.02	74.63	1.35	.8061	2.80
			4.0	74.93	17.61	1.21	4.01	74.73	1.58	.7623	3.57	74.99	17.26	1.19	4.01	74.74	1.48	.7580	3.71
			5.0	74.95	14.65	1.26	4.01	74.79	1.75	.7191	4.39	75.00	14.30	1.24	4.00	74.80	1.61	.7127	4.59
			6.0	74.96	12.73	1.32	4.00	74.83	1.94	.6795	5.16	75.01	12.37	1.29	4.00	74.84	1.76	.6707	5.45
			7.0	74.96	11.38	1.38	4.00	74.86	2.14	.6434	5.90	75.01	11.02	1.34	4.00	74.87	1.92	.6321	6.28
			8.0	74.97	10.39	1.44	4.00	74.88	2.35	.6107	6.60	75.01	10.02	1.39	4.00	74.89	2.09	.5967	7.09
			10.0	74.97	9.04	1.57	4.00	74.90	2.84	.5543	7.90	75.01	8.65	1.50	4.00	74.91	2.47	.5347	8.62
			12.0	74.97	8.18	1.71	4.00	74.92	3.39	.5081	9.07	75.01	7.77	1.62	4.00	74.93	2.91	.4830	10.06
			14.0	74.97	7.58	1.85	4.00	74.93	4.02	.4703	10.11	75.01	7.17	1.75	4.00	74.94	3.39	.4399	11.39
			16.0	74.97	7.16	1.99	4.00	74.94	4.72	.4393	11.04	75.01	6.73	1.87	4.00	74.95	3.93	.4038	12.62
			18.0	74.97	6.84	2.14	4.00	74.95	5.50	.4138	11.86	75.01	6.40	2.01	4.00	74.95	4.53	.3736	13.76
			20.0	74.97	6.60	2.30	4.00	74.95	6.36	.3926	12.58	75.01	6.15	2.14	4.00	74.96	5.19	.3483	14.81
			30.0	74.97	5.96	3.12	4.00	74.96	11.90	.3281	15.11	75.01	5.47	2.86	4.00	74.97	9.39	.2684	18.82
6	6.21	75.08	3.0	74.74	24.54	1.25	6.03	74.44	1.69	.7334	2.58	74.92	23.96	1.22	6.02	74.46	1.56	.7283	2.70
			4.0	74.85	19.39	1.38	6.01	74.60	1.96	.6757	3.57	74.98	18.82	1.29	6.01	74.62	1.78	.6671	3.57
			5.0	74.88	16.46	1.42	6.01	74.70	2.26	.6243	4.11	75.00	15.88	1.37	6.01	74.71	2.02	.6118	4.39
			6.0	74.90	14.57	1.51	6.01	74.75	2.60	.5796	4.78	75.01	13.99	1.45	6.00	74.77	2.29	.5630	5.18
			7.0	74.91	13.28	1.61	6.00	74.79	2.98	.5408	5.41	75.02	12.67	1.54	6.00	74.81	2.58	.5200	5.93
			8.0	74.92	12.33	1.71	6.00	74.82	3.40	.5074	5.98	75.02	11.72	1.62	6.00	74.84	2.91	.4825	6.64
			10.0	74.93	11.08	1.92	6.00	74.86	4.37	.4538	7.00	75.03	10.43	1.81	6.00	74.87	3.66	.4208	7.95
			12.0	74.93	10.30	2.15	6.00	74.88	5.51	.4136	7.84	75.03	9.63	2.01	6.00	74.90	4.53	.3736	9.11
			14.0	74.93	9.78	2.38	6.00	74.89	6.83	.3833	8.55	75.03	9.09	2.21	6.00	74.91	5.54	.3371	10.13
			16.0	74.94	9.42	2.62	6.00	74.90	8.33	.3602	9.13	75.03	8.71	2.42	6.00	74.92	6.68	.3087	11.03
			18.0	74.94	9.16	2.86	6.00	74.91	10.02	.3422	9.61	75.03	8.43	2.64	6.00	74.93	7.96	.2863	11.81
			20.0	74.94	8.96	3.12	6.00	74.92	11.89	.3281	10.01	75.03	8.22	2.86	6.00	74.94	9.38	.2685	12.48
			30.0	74.94	8.47	4.42	6.00	74.93	24.15	.2893	11.23	75.03	7.69	4.01	6.00	74.95	18.63	.2184	14.75
8	8.28	75.15	3.0	74.53	26.48	1.34	8.04	74.24	1.99	.6695	2.45	74.85	25.64	1.30	8.03	74.28	1.80	.6612	2.60
			4.0	74.72	21.31	1.45	8.02	74.47	2.39	.6056	3.18	74.96	20.48	1.40	8.02	74.51	2.12	.5919	3.43
			5.0	74.79	18.41	1.58	8.01	74.59	2.87	.5514	3.84	75.00	17.58	1.51	8.01	74.63	2.49	.5322	4.20
			6.0	74.82	16.58	1.71	8.01	74.67	3.42	.5064	4.42	75.02	15.73	1.63	8.01	74.70	2.92	.4816	4.91
			7.0	74.84	15.34	1.85	8.00	74.72	4.04	.4693	4.94	75.03	14.47	1.75	8.00	74.75	3.40	.4391	5.58
			8.0	74.85	14.46	2.00	8.00	74.75	4.74	.4387	5.41	75.04	13.56	1.88	8.00	74.79	3.94	.4035	6.20
			10.0	74.87	13.30	2.30	8.00	74.80	6.37	.3924	6.18	75.04	12.37	2.14	8.00	74.83	5.19	.3483	7.29
			12.0	74.87	12.61	2.62	8.00	74.82	8.33	.3601	6.78	75.05	11.64	2.42	8.00	74.86	6.67	.3088	8.20
			14.0	74.88	12.15	2.95	8.00	74.84	10.62	.3371	7.25	75.05	11.16	2.71	8.00	74.88	8.41	.2801	8.96
			16.0	74.88	11.85	3.28	8.00	74.85	13.24	.3204	7.62	75.05	10.84	3.01	8.00	74.89	10.39	.2588	9.60
			18.0	74.88	11.63	3.63	8.00	74.86	16.21	.3079	7.91	75.05	10.60	3.31	8.00	74.90	12.63	.2427	10.12
			20.0	74.88	11.46	3.97	8.00	74.87	19.51	.2983	8.14	75.05	10.43	3.62	8.00	74.91	15.12	.2303	10.55
			30.0	74.89	11.06	5.76	8.00	74.88	41.20	.2735	8.78	75.06	9.99	5.21	8.00	74.92	31.45	.1974	11.86
10	10.35	75.23	3.0	74.25	28.56	1.43	10.05	74.03	2.32	.6152	2.33	74.75	27.42	1.38	10.04	74.10	2.06	.6033	2.50
			4.0	74.55	23.36	1.59	10.02	74.33	2.89	.5488	2.99	74.93	22.25	1.51	10.02	74.39	2.51	.5299	3.28
			5.0	74.66	20.50	1.75	10.01	74.48	3.59	.4952	3.57	75.00	19.39	1.66	10.01	74.54	3.05	.4692	4.00
			6.0	74.71	18.74	1.93	10.01	74.57	4.40	.4526	4.08	75.03	17.59	1.81	10.01	74.63	3.67	.4200	4.65
			7.0	74.74	17.56	2.11	10.01	74.63	5.33	.4189	4.51	75.04	16.39	1.97	10.00	74.69	4.38	.3803	5.23
			8.0	74.76	16.73	2.30	10.01	74.67	6.38	.3922	4.88	75.06	15.53	2.14	10.00	74.73	5.19	.3483	5.76
			10.0	74.78	15.67	2.70	10.00	74.73	8.87	.3536	5.46	75.07	14.63	2.49	10.00	74.79	7.08	.3009	6.66
			12.0	74.80	15.04	3.11	10.00	74.76	11.88	.3282	5.89	75.07	13.77	2.86	10.00	74.82	9.35	.2688	7.37
			14.0	74.80	14.64	3.54	10.00	74.78	15.42	.3107	6.21	75.08	13.35	3.23	10.00	74.84	12.02	.2464	7.93
			16.0	74.81	14.38	3.97	10.00	74.79	19.49	.2984	6.45	75.08	13.06	3.62	10.00	74.85	15.09	.2304	8.37
			18.0	74.81	14.19	4.41	10.00	74.80	24.09	.2894	6.63	75.08	12.86	4.01	10.00	74.86	18.55	.2186	8.73
			20.0	74.81	14.05	4.85	10.00	74.81	29.23	.2827	6.77	75.08	12.71	4.40	10.00	74.87	22.42	.2097	9.01
			30.0	74.82	13.71	7.11	10.00	74.82	63.00	.2658	7.14	75.08	12.34	6.41	10.00	74.89	47.81	.1869	9.81
12	12.41	75.34	3.0	73.88	30.77	1.53	12.06	73.80	2.70	.5689	2.20	74.62	29.30	1.47	12.05	73.90	2.35	.5533	2.40
			4.0	74.33	25.54	1.72	12.03	74.17	3.47	.5028	2.81	74.89	24.12	1.63	12.02	74.26	2.95	.4786	3.14
			5.0	74.49	22.73	1.93	12.02	74.35	4.42	.4516	3.32	74.99	21.30	1.82	12.01	74.45	3.68	.4194	3.80
			6.0	74.57	21.02	2.15	12.01	74.46	5.54	.4126	3.75	75.03	19.56	2.01	12.01	74.55	4.54	.3732	4.38
			7.0	74.61	19.90	2.38	12.01	74.53	6.85	.3829	4.10	75.06	18.41	2.21	12.01	74.62	5.53	.3372	4.89
			8.0	74.64	19.12	2.62	12.01	74.58	8.34	.3600	4.40	75.07	17.60	2.42	12.00	74.67	6.66	.3090	5.34
			10.0	74.67	18.14	3.11	12.01	74.64	11.88	.3282	4.84	75.09	16.58	2.85	12.00	74.73	9.34	.2890	6.07
			12.0	74.69	17.58	3.62	12.00	74.67	16.18	.3080	5.15	75.10	15.98	3.30	12.00	74.77	12.57	.2430	6.62
			14.0	74.70	17.22	4.14	12.00	74.70	21.24	.2945	5.37	75.11	15.60	3.77	12.00	74.79	16.38	.2254	7.03
			16.0	74.71	16.98	4.67	12.00	74.71	27.07	.2852	5.53	75.11	15.35	4.24	12.00	74.81	20.76	.2191	7.35
			18.0	74.71	16.82	5.21	12.00	74.72	33.67	.2786	5.65	75.11	15.17	4.71	12.00	74.82	25.72	.2042	7.59
			20.0	74.71	16.69	5.75	12.00	74.73	41.04	.2736	5.74	75.11	15.04	5.19	12.00	74.82	31.26	.1976	7.78
			30.0	74.72	16.40	8.47	12.00	74.74	89.52	.2614	5.97	75.12	14.72	7.63	12.00	74.84	67.66	.1810	8.30
14	14.47	75.46	3.0	73.41	33.14	1.64	14.08	73.53	3.11	.5294	2.07	74.46	31.28	1.56	14.06	73.70	2.66	.5102	2.30
			4.0	74.04	27.85	1.87	14.04	73.99	4.12	.4654	2.63	74.84	26.08	1.76	14.03	74.13	3.44	.4362	3.00
			5.0	74.27	25.08	2.12	14.02	74.21	5.37	.4177	3.08	74.97	23.30	1.98	14.02	74.34	4.40	.3797	3.60
			6.0	74.38	23.43	2.39	14.02	74.34	6.87	.3826	3.44	75.03	21.62	2.21	14.01	74.47	5.54	.3372	4.12
			7.0	74.45	22.36	2.66	14.01	74.42	8.62	.3566	3.73	75.07	20.52	2.45	14.01	74.55	6.86	.3051	4.56
			8.0	74.49	21.62	2.95	14.01	74.47	10.62	.3371	3.97	75.09	19.76	2.70	14.01	74.60	8.37	.2806	4.94
			10.0	74.53	20.71	3.54	14.01	74.54	15.39	.3108	4.31	75.11	18.81	3.22	14.00	74.67	11.96	.2468	5.53
			12.0	74.55	20.19	4.14	14.01	74.57	21.20	.2946	4.53	75.13	18.26	3.76	14.00	74.71	16.33	.2256	5.95
			14.0	74.57	19.87	4.76	14.01	74.60	28.06	.2840	4.69	75.13	17.92	4.31	14.00	74.73	21.47	.2116	6.26
			16.0	74.58	19.65	5.38	14.01	74.61	35.96	.2768	4.80	75.14	17.69	4.86	14.00	74.75	27.40	.2019	6.49
			18.0	74.58	19.50	6.01	14.01	74.62	44.91	.2717	4.88	75.14	17.53	5.42	14.00	74.76	34.11	.1950	6.67
			20.0	74.59	19.39	6.64	14.00	74.63	54.91	.2679	4.94	75.15	17.41	5.98	14.00	74.77	41.61	.1899	6.80
			30.0	74.60	19.13	9.83	14.00	74.65	120.7	.2587	5.09	75.15	17.13	8.84	14.00	74.79	90.93	.1773	7.14

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(a) $\epsilon_p = 75°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.07	2.01	74.81	1.07	2.01	74.81	1.06	2.01	74.81	1.06	2.01	74.81	1.06	2.01	74.82	1.06	2.01	74.82
1.09	2.00	74.87	1.09	2.00	74.87	1.08	2.00	74.87	1.08	2.00	74.87	1.08	2.00	74.87	1.08	2.00	74.87
1.11	2.00	74.90	1.11	2.00	74.90	1.11	2.00	74.90	1.10	2.00	74.90	1.10	2.00	74.90	1.10	2.00	74.90
1.13	2.00	74.92	1.13	2.00	74.92	1.13	2.00	74.92	1.12	2.00	74.92	1.12	2.00	74.92	1.12	2.00	74.92
1.16	2.00	74.93	1.15	2.00	74.93	1.15	2.00	74.93	1.14	2.00	74.93	1.14	2.00	74.93	1.14	2.00	74.93
1.18	2.00	74.94	1.17	2.00	74.94	1.17	2.00	74.94	1.17	2.00	74.94	1.16	2.00	74.94	1.16	2.00	74.94
1.23	2.00	74.95	1.22	2.00	74.95	1.22	2.00	74.95	1.21	2.00	74.95	1.21	2.00	74.95	1.20	2.00	74.95
1.28	2.00	74.96	1.27	2.00	74.96	1.26	2.00	74.96	1.26	2.00	74.96	1.25	2.00	74.96	1.24	2.00	74.96
1.33	2.00	74.97	1.32	2.00	74.97	1.31	2.00	74.97	1.30	2.00	74.97	1.30	2.00	74.97	1.29	2.00	74.97
1.38	2.00	74.97	1.37	2.00	74.97	1.36	2.00	74.97	1.35	2.00	74.97	1.34	2.00	74.97	1.34	2.00	74.97
1.44	2.00	74.98	1.42	2.00	74.98	1.41	2.00	74.98	1.40	2.00	74.98	1.39	2.00	74.98	1.38	2.00	74.98
1.49	2.00	74.98	1.48	2.00	74.98	1.47	2.00	74.98	1.46	2.00	74.98	1.44	2.00	74.98	1.43	2.00	74.98
1.79	2.00	74.99	1.77	2.00	74.99	1.75	2.00	74.99	1.73	2.00	74.99	1.71	2.00	74.99	1.69	2.00	74.99
1.14	4.02	74.63	1.14	4.02	74.64	1.13	4.02	74.64	1.13	4.02	74.64	1.13	4.02	74.64	1.12	4.02	74.64
1.18	4.01	74.74	1.18	4.01	74.75	1.17	4.01	74.75	1.17	4.01	74.75	1.17	4.01	74.75	1.16	4.01	74.75
1.23	4.00	74.80	1.22	4.00	74.80	1.22	4.00	74.81	1.21	4.00	74.81	1.21	4.00	74.81	1.20	4.00	74.81
1.28	4.00	74.84	1.27	4.00	74.84	1.27	4.00	74.84	1.26	4.00	74.85	1.25	4.00	74.85	1.25	4.00	74.85
1.33	4.00	74.87	1.32	4.00	74.87	1.31	4.00	74.87	1.31	4.00	74.87	1.30	4.00	74.87	1.29	4.00	74.87
1.38	4.00	74.89	1.37	4.00	74.89	1.36	4.00	74.89	1.36	4.00	74.89	1.35	4.00	74.89	1.34	4.00	74.89
1.49	4.00	74.91	1.48	4.00	74.91	1.47	4.00	74.92	1.46	4.00	74.92	1.44	4.00	74.92	1.43	4.00	74.92
1.61	4.00	74.93	1.59	4.00	74.93	1.58	4.00	74.93	1.56	4.00	74.93	1.55	4.00	74.94	1.53	4.00	74.94
1.73	4.00	74.94	1.71	4.00	74.94	1.69	4.00	74.94	1.67	4.00	74.95	1.66	4.00	74.95	1.64	4.00	74.95
1.85	4.00	74.95	1.83	4.00	74.95	1.81	4.00	74.95	1.79	4.00	74.95	1.77	4.00	74.96	1.75	4.00	74.96
1.98	4.00	74.96	1.96	4.00	74.96	1.93	4.00	74.96	1.91	4.00	74.96	1.88	4.00	74.96	1.86	4.00	74.96
2.11	4.00	74.96	2.09	4.00	74.96	2.06	4.00	74.96	2.03	4.00	74.97	2.00	4.00	74.97	1.97	4.00	74.97
2.81	4.00	74.97	2.77	4.00	74.98	2.72	4.00	74.98	2.68	4.00	74.98	2.63	4.00	74.98	2.58	4.00	74.98
1.21	6.02	74.46	1.21	6.02	74.46	1.20	6.02	74.47	1.20	6.02	74.47	1.19	6.02	74.47	1.19	6.02	74.48
1.28	6.01	74.63	1.28	6.01	74.63	1.27	6.01	74.63	1.26	6.01	74.64	1.26	6.01	74.64	1.25	6.01	74.64
1.36	6.01	74.72	1.35	6.01	74.72	1.34	6.01	74.72	1.33	6.01	74.73	1.32	6.01	74.73	1.32	6.01	74.73
1.44	6.00	74.77	1.43	6.00	74.78	1.42	6.00	74.78	1.41	6.00	74.78	1.40	6.00	74.79	1.39	6.00	74.79
1.52	6.00	74.81	1.51	6.00	74.82	1.50	6.00	74.82	1.48	6.00	74.82	1.47	6.00	74.82	1.46	6.00	74.83
1.61	6.00	74.84	1.59	6.00	74.84	1.58	6.00	74.85	1.56	6.00	74.85	1.55	6.00	74.85	1.53	6.00	74.86
1.79	6.00	74.88	1.77	6.00	74.88	1.75	6.00	74.88	1.73	6.00	74.89	1.71	6.00	74.89	1.69	6.00	74.89
1.98	6.00	74.90	1.96	6.00	74.90	1.93	6.00	74.91	1.91	6.00	74.91	1.88	6.00	74.91	1.86	6.00	74.92
2.18	6.00	74.92	2.15	6.00	74.92	2.12	6.00	74.92	2.09	6.00	74.93	2.06	6.00	74.93	2.03	6.00	74.93
2.39	6.00	74.93	2.35	6.00	74.93	2.32	6.00	74.93	2.28	6.00	74.94	2.24	6.00	74.94	2.21	6.00	74.95
2.60	6.00	74.93	2.56	6.00	74.94	2.52	6.00	74.94	2.47	6.00	74.95	2.43	6.00	74.95	2.39	6.00	74.95
2.81	6.00	74.94	2.77	6.00	74.94	2.72	6.00	74.95	2.67	6.00	74.95	2.63	6.00	74.96	2.58	6.00	74.96
3.94	6.00	74.96	3.87	6.00	74.96	3.79	6.00	74.96	3.72	6.00	74.97	3.65	6.00	74.97	3.57	6.00	74.98
1.29	8.03	74.28	1.28	8.03	74.29	1.28	8.03	74.30	1.27	8.03	74.31	1.26	8.03	74.31	1.26	8.03	74.32
1.39	8.01	74.51	1.38	8.01	74.52	1.37	8.01	74.52	1.36	8.01	74.53	1.35	8.01	74.54	1.34	8.01	74.54
1.50	8.01	74.63	1.49	8.01	74.64	1.47	8.01	74.64	1.46	8.01	74.65	1.45	8.01	74.66	1.44	8.01	74.66
1.61	8.01	74.71	1.60	8.01	74.71	1.58	8.00	74.72	1.57	8.00	74.73	1.55	8.00	74.73	1.53	8.00	74.74
1.73	8.00	74.76	1.71	8.00	74.76	1.69	8.00	74.77	1.67	8.00	74.78	1.66	8.00	74.78	1.64	8.00	74.79
1.85	8.00	74.79	1.83	8.00	74.80	1.81	8.00	74.81	1.79	8.00	74.81	1.77	8.00	74.82	1.75	8.00	74.82
2.11	8.00	74.84	2.08	8.00	74.85	2.06	8.00	74.85	2.03	8.00	74.86	2.00	8.00	74.87	1.97	8.00	74.87
2.39	8.00	74.87	2.35	8.00	74.87	2.31	8.00	74.88	2.28	8.00	74.89	2.24	8.00	74.89	2.21	8.00	74.90
2.67	8.00	74.89	2.62	8.00	74.89	2.58	8.00	74.90	2.54	8.00	74.91	2.50	8.00	74.91	2.45	8.00	74.92
2.96	8.00	74.90	2.91	8.00	74.91	2.86	8.00	74.91	2.81	8.00	74.92	2.76	8.00	74.93	2.71	8.00	74.93
3.25	8.00	74.91	3.20	8.00	74.92	3.14	8.00	74.92	3.08	8.00	74.93	3.02	8.00	74.94	2.97	8.00	74.94
3.55	8.00	74.92	3.49	8.00	74.92	3.43	8.00	74.93	3.36	8.00	74.94	3.30	8.00	74.94	3.23	8.00	74.95
5.10	8.00	74.93	5.00	8.00	74.94	4.90	8.00	74.95	4.80	8.00	74.95	4.70	8.00	74.96	4.60	8.00	74.97
1.37	10.04	74.11	1.36	10.04	74.12	1.35	10.04	74.13	1.34	10.04	74.14	1.33	10.04	74.15	1.33	10.03	74.17
1.50	10.02	74.40	1.49	10.02	74.41	1.48	10.02	74.42	1.46	10.02	74.43	1.45	10.02	74.44	1.44	10.02	74.45
1.64	10.01	74.55	1.63	10.01	74.56	1.61	10.01	74.57	1.59	10.01	74.58	1.58	10.01	74.59	1.56	10.01	74.60
1.79	10.01	74.64	1.77	10.01	74.65	1.75	10.01	74.66	1.73	10.01	74.67	1.71	10.01	74.68	1.69	10.00	74.69
1.95	10.00	74.70	1.93	10.00	74.71	1.90	10.00	74.72	1.88	10.00	74.73	1.85	10.00	74.74	1.83	10.00	74.75
2.11	10.00	74.74	2.08	10.00	74.75	2.06	10.00	74.76	2.03	10.00	74.78	2.00	10.00	74.79	1.97	10.00	74.80
2.45	10.00	74.80	2.42	10.00	74.81	2.38	10.00	74.82	2.34	10.00	74.83	2.30	10.00	74.84	2.27	10.00	74.85
2.81	10.00	74.83	2.76	10.00	74.84	2.72	10.00	74.85	2.67	10.00	74.86	2.62	10.00	74.87	2.58	10.00	74.89
3.18	10.00	74.85	3.12	10.00	74.86	3.06	10.00	74.87	3.01	10.00	74.89	2.95	10.00	74.90	2.90	10.00	74.91
3.55	10.00	74.87	3.49	10.00	74.88	3.42	10.00	74.89	3.36	10.00	74.90	3.29	10.00	74.91	3.23	10.00	74.92
3.93	10.00	74.88	3.86	10.00	74.89	3.78	10.00	74.90	3.71	10.00	74.91	3.64	10.00	74.92	3.56	10.00	74.93
4.32	10.00	74.88	4.23	10.00	74.89	4.15	10.00	74.91	4.07	10.00	74.92	3.99	10.00	74.93	3.90	10.00	74.94
6.28	10.00	74.90	6.16	10.00	74.91	6.03	10.00	74.92	5.90	10.00	74.94	5.77	10.00	74.95	5.65	10.00	74.96
1.46	12.05	73.92	1.44	12.05	73.94	1.43	12.04	73.96	1.42	12.04	73.98	1.41	12.04	74.00	1.40	12.04	74.01
1.62	12.02	74.28	1.60	12.02	74.30	1.59	12.02	74.31	1.57	12.02	74.33	1.55	12.02	74.34	1.54	12.02	74.36
1.80	12.01	74.46	1.77	12.01	74.48	1.75	12.01	74.49	1.73	12.01	74.51	1.71	12.01	74.52	1.69	12.01	74.54
1.98	12.01	74.57	1.96	12.01	74.59	1.93	12.01	74.60	1.91	12.01	74.62	1.88	12.01	74.63	1.86	12.01	74.65
2.18	12.01	74.64	2.15	12.00	74.66	2.12	12.00	74.67	2.09	12.00	74.69	2.06	12.00	74.70	2.03	12.00	74.72
2.38	12.00	74.69	2.35	12.00	74.71	2.31	12.00	74.72	2.28	12.00	74.74	2.24	12.00	74.75	2.20	12.00	74.77
2.81	12.00	74.75	2.76	12.00	74.77	2.71	12.00	74.78	2.67	12.00	74.80	2.62	12.00	74.82	2.57	12.00	74.83
3.25	12.00	74.79	3.19	12.00	74.80	3.13	12.00	74.82	3.07	12.00	74.84	3.02	12.00	74.85	2.96	12.00	74.87
3.70	12.00	74.81	3.63	12.00	74.83	3.56	12.00	74.84	3.49	12.00	74.86	3.42	12.00	74.88	3.36	12.00	74.89
4.16	12.00	74.82	4.08	12.00	74.84	4.00	12.00	74.86	3.92	12.00	74.88	3.84	12.00	74.89	3.76	12.00	74.91
4.62	12.00	74.83	4.53	12.00	74.85	4.44	12.00	74.87	4.35	12.00	74.89	4.26	12.00	74.90	4.17	12.00	74.92
5.09	12.00	74.84	4.99	12.00	74.86	4.89	12.00	74.88	4.79	12.00	74.89	4.69	12.00	74.91	4.59	12.00	74.93
7.47	12.00	74.86	7.31	12.00	74.88	7.16	12.00	74.90	7.01	12.00	74.91	6.85	12.00	74.93	6.70	12.00	74.95
1.54	14.06	73.73	1.53	14.05	73.76	1.51	14.05	73.78	1.50	14.05	73.81	1.49	14.05	73.84	1.47	14.05	73.86
1.74	14.02	74.16	1.72	14.02	74.18	1.70	14.02	74.20	1.68	14.02	74.23	1.66	14.02	74.25	1.64	14.02	74.27
1.95	14.01	74.37	1.93	14.01	74.39	1.90	14.01	74.41	1.88	14.01	74.44	1.85	14.01	74.46	1.83	14.01	74.48
2.18	14.01	74.49	2.15	14.01	74.52	2.12	14.01	74.54	2.09	14.01	74.56	2.06	14.01	74.58	2.03	14.01	74.61
2.42	14.01	74.57	2.38	14.01	74.60	2.34	14.01	74.62	2.30	14.00	74.64	2.27	14.00	74.66	2.23	14.00	74.69
2.66	14.00	74.63	2.62	14.00	74.65	2.57	14.00	74.67	2.53	14.00	74.70	2.49	14.00	74.72	2.45	14.00	74.74
3.17	14.00	74.69	3.11	14.00	74.72	3.06	14.00	74.74	3.00	14.00	74.77	2.94	14.00	74.79	2.89	14.00	74.81
3.69	14.00	74.73	3.62	14.00	74.76	3.55	14.00	74.78	3.48	14.00	74.80	3.42	14.00	74.83	3.35	14.00	74.85
4.22	14.00	74.76	4.14	14.00	74.78	4.09	14.00	74.81	3.98	14.00	74.83	7.90	14.00	74.85	3.82	14.00	74.88
4.77	14.00	74.77	4.67	14.00	74.80	4.58	14.00	74.82	4.48	14.00	74.85	4.39	14.00	74.87	4.30	14.00	74.89
5.31	14.00	74.79	5.21	14.00	74.81	5.10	14.00	74.83	4.99	14.00	74.86	4.89	14.00	74.88	4.78	14.00	74.91
5.86	14.00	74.79	5.74	14.00	74.82	5.63	14.00	74.84	5.51	14.00	74.87	5.39	14.00	74.89	5.27	14.00	74.91
8.65	14.00	74.81	8.47	14.00	74.84	8.29	14.00	74.86	8.11	14.00	74.89	7.93	14.00	74.91	7.75	14.00	74.93

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(a) $\epsilon_p = 75°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	16.53	75.59	3.0	72.81	35.68	1.75	16.10	73.24	3.58	.4955	1.94	74.24	33.36	1.65	16.07	73.48	3.01	.4728	2.20
			4.0	73.68	30.40	2.02	16.05	73.78	4.84	.4348	2.45	74.76	28.13	1.89	16.03	73.99	3.98	.4010	2.85
			5.0	73.99	27.56	2.31	16.03	74.04	6.44	.3909	2.85	74.94	25.40	2.14	16.02	74.23	5.20	.3479	3.40
			6.0	74.15	25.95	2.63	16.02	74.18	8.37	.3596	3.16	75.03	23.77	2.42	16.01	74.37	6.65	.3092	3.86
			7.0	74.23	24.91	2.95	16.02	74.28	10.63	.3371	3.40	75.07	22.71	2.70	16.01	74.46	8.35	.2808	4.25
			8.0	74.28	24.22	3.28	16.01	74.34	13.22	.3205	3.58	75.10	21.99	3.00	16.01	74.52	10.30	.2595	4.56
			10.0	74.35	23.36	3.96	16.01	74.41	19.41	.2986	3.84	75.14	21.10	3.60	16.00	74.60	14.95	.2310	5.04
			12.0	74.38	22.87	4.66	16.01	74.45	26.97	.2854	4.01	75.15	20.59	4.22	16.00	74.64	20.61	.2135	5.37
			14.0	74.40	22.57	5.37	16.01	74.47	35.88	.2769	4.13	75.16	20.27	4.85	16.00	74.66	27.28	.2021	5.61
			16.0	74.41	22.38	6.09	16.01	74.49	46.16	.2711	4.21	75.17	20.06	5.49	16.00	74.68	34.98	.1943	5.78
			18.0	74.42	22.24	6.81	16.01	74.50	57.81	.2671	4.27	75.17	19.92	6.13	16.00	74.69	43.70	.1888	5.91
			20.0	74.42	22.14	7.54	16.01	74.51	70.83	.2641	4.31	75.18	19.81	6.78	16.00	74.70	53.44	.1848	6.00
			30.0	74.44	21.90	11.19	16.01	74.53	156.4	.2569	4.41	75.18	19.56	10.04	16.00	74.72	117.5	.1749	6.25
18	18.59	75.75	3.0	72.05	38.43	1.86	18.12	72.86	4.10	.4664	1.81	73.97	35.56	1.74	18.08	73.22	3.38	.4404	2.10
			4.0	73.22	32.90	2.17	18.06	73.54	5.65	.4096	2.28	74.65	30.28	2.02	18.04	73.83	4.58	.3716	2.71
			5.0	73.64	30.16	2.51	18.04	73.84	7.64	.3697	2.63	74.89	27.57	2.31	18.02	74.11	6.08	.3222	3.21
			6.0	73.84	28.57	2.87	18.03	74.00	10.05	.3419	2.89	75.01	25.98	2.63	18.01	74.27	7.90	.2873	3.62
			7.0	73.96	27.57	3.24	18.02	74.11	12.88	.3223	3.09	75.07	24.97	2.95	18.01	74.36	10.02	.2621	3.94
			8.0	74.03	26.90	3.62	18.02	74.17	16.14	.3081	3.24	75.11	24.28	3.29	18.01	74.43	12.46	.2437	4.21
			10.0	74.11	26.09	4.40	18.01	74.25	23.94	.2897	3.44	75.15	23.44	3.98	18.01	74.51	18.29	.2193	4.60
			12.0	74.15	25.63	5.19	18.01	74.30	33.45	.2787	3.57	75.17	22.96	4.68	18.01	74.55	25.40	.2047	4.86
			14.0	74.18	25.35	5.99	18.01	74.33	44.69	.2718	3.66	75.19	22.67	5.40	18.00	74.58	33.80	.1953	5.05
			16.0	74.19	25.16	6.80	18.01	74.34	57.65	.2671	3.72	75.19	22.47	6.12	18.00	74.60	43.47	.1889	5.17
			18.0	74.20	25.04	7.62	18.01	74.36	72.34	.2638	3.76	75.20	22.34	6.84	18.00	74.61	54.44	.1845	5.27
			20.0	74.21	24.94	8.43	18.01	74.37	88.75	.2615	3.79	75.20	22.24	7.57	18.00	74.62	66.70	.1812	5.34
			30.0	74.23	24.73	12.55	18.01	74.39	196.7	.2557	3.87	75.21	22.01	11.24	18.00	74.64	147.3	.1733	5.52
20	20.65	75.92	3.0	71.26	41.43	1.98	20.16	72.41	4.68	.4410	1.68	73.62	37.88	1.84	20.10	72.94	3.79	.4122	1.99
			4.0	72.64	35.66	2.33	20.07	73.24	6.55	.3887	2.11	74.51	32.51	2.15	20.04	73.64	5.23	.3469	2.57
			5.0	73.20	32.89	2.72	20.05	73.60	8.97	.3525	2.42	74.82	29.83	2.49	20.03	73.96	7.05	.3014	3.02
			6.0	73.46	31.32	3.12	20.04	73.79	11.92	.3279	2.64	74.97	28.28	2.84	20.02	74.14	9.26	.2698	3.38
			7.0	73.61	30.34	3.54	20.03	73.90	15.39	.3108	2.81	75.05	27.29	3.21	20.01	74.25	11.85	.2476	3.66
			8.0	73.70	29.69	3.96	20.02	73.98	19.39	.2987	2.93	75.10	26.63	3.59	20.01	74.32	14.84	.2315	3.88
			10.0	73.81	28.90	4.83	20.02	74.07	28.97	.2830	3.09	75.15	25.83	4.36	20.01	74.41	21.98	.2106	4.21
			12.0	73.86	28.46	5.72	20.02	74.12	40.66	.2738	3.20	75.18	25.38	5.14	20.01	74.45	30.69	.1982	4.42
			14.0	73.90	28.19	6.61	20.02	74.15	54.48	.2681	3.26	75.20	25.10	5.94	20.01	74.48	40.98	.1903	4.56
			16.0	73.92	28.02	7.52	20.02	74.17	70.42	.2642	3.31	75.21	24.92	6.74	20.01	74.50	52.85	.1850	4.66
			18.0	73.93	27.90	8.42	20.02	74.18	88.48	.2615	3.34	75.22	24.79	7.55	20.01	74.52	66.30	.1813	4.73
			20.0	73.94	27.81	9.33	20.02	74.19	108.7	.2595	3.36	75.22	24.70	8.36	20.01	74.53	81.33	.1786	4.78
			30.0	73.97	27.60	13.90	20.01	74.21	241.5	.2548	3.42	75.24	24.49	12.43	20.00	74.55	180.2	.1721	4.92
22	22.70	76.12	3.0	69.74	44.78	2.11	22.22	71.81	5.34	.4187	1.54	73.17	40.35	1.94	22.12	72.60	4.23	.3876	1.88
			4.0	71.91	38.41	2.50	22.10	72.88	7.54	.3712	1.95	74.33	34.85	2.29	22.05	73.43	5.93	.3262	2.42
			5.0	72.63	35.77	2.92	22.06	73.30	10.44	.3386	2.22	74.72	32.17	2.66	22.03	73.80	8.20	.2843	2.83
			6.0	72.98	34.20	3.37	22.05	73.52	13.97	.3168	2.41	74.91	30.64	3.06	22.02	73.99	10.74	.2558	3.15
			7.0	73.17	33.22	3.94	22.04	73.66	18.15	.3019	2.55	75.01	29.68	3.47	22.02	74.11	13.85	.2360	3.39
			8.0	73.29	32.58	4.31	22.03	73.74	22.96	.2913	2.65	75.07	29.04	3.88	22.01	74.19	17.43	.2219	3.58
			10.0	73.43	31.81	5.27	22.03	73.84	34.50	.2779	2.78	75.14	28.27	4.74	22.01	74.29	26.00	.2038	3.85
			12.0	73.50	31.38	6.25	22.03	73.90	48.60	.2701	2.87	75.18	27.83	5.60	22.01	74.34	36.46	.1932	4.02
			14.0	73.54	31.12	7.24	22.02	73.93	65.25	.2652	2.92	75.20	27.57	6.48	22.01	74.37	48.82	.1865	4.13
			16.0	73.57	30.95	8.23	22.02	73.95	84.47	.2620	2.95	75.21	27.40	7.36	22.01	74.39	63.08	.1820	4.21
			18.0	73.59	30.84	9.23	22.02	73.97	106.2	.2597	2.98	75.22	27.28	8.25	22.01	74.40	79.24	.1789	4.27
			20.0	73.60	30.75	10.23	22.02	73.98	130.6	.2581	3.00	75.23	27.19	9.14	22.01	74.41	97.29	.1766	4.31
			30.0	73.63	30.55	15.25	22.02	74.00	290.7	.2542	3.04	75.25	26.99	13.61	22.01	74.44	216.1	.1712	4.41
24	24.75	76.32	3.0	67.85	48.73	2.25	24.32	70.95	6.11	.3983	1.39	72.58	42.98	2.05	24.15	72.19	4.71	.3659	1.77
			4.0	70.94	41.80	2.67	24.13	72.41	8.64	.3563	1.78	74.08	37.29	2.42	24.06	73.18	6.68	.3086	2.28
			5.0	71.91	38.84	3.14	24.08	72.93	12.05	.3271	2.03	74.58	34.59	2.84	24.04	73.60	9.23	.2701	2.65
			6.0	72.36	37.23	3.63	24.06	73.19	16.23	.3078	2.20	74.81	33.07	3.27	24.03	73.82	12.34	.2444	2.93
			7.0	72.61	36.24	4.14	24.05	73.35	21.17	.2947	2.31	74.94	32.13	3.72	24.02	73.95	16.00	.2268	3.14
			8.0	72.76	35.60	4.66	24.05	73.45	26.88	.2855	2.40	75.02	31.50	4.18	24.02	74.04	20.22	.2144	3.30
			10.0	72.94	34.83	5.71	24.04	73.56	40.56	.2739	2.51	75.11	30.75	5.11	24.01	74.14	30.33	.1985	3.54
			12.0	73.03	34.41	6.78	24.04	73.63	57.27	.2672	2.57	75.15	30.34	6.06	24.01	74.20	42.69	.1894	3.67
			14.0	73.08	34.15	7.86	24.03	73.66	77.03	.2631	2.61	75.18	30.08	7.02	24.01	74.23	57.28	.1835	3.76
			16.0	73.12	33.99	8.94	24.03	73.69	99.82	.2603	2.64	75.20	29.92	7.98	24.01	74.26	74.12	.1798	3.82
			18.0	73.14	33.87	10.03	24.03	73.70	125.7	.2584	2.66	75.21	29.80	8.95	24.01	74.27	93.20	.1771	3.86
			20.0	73.16	33.79	11.12	24.03	73.72	154.5	.2570	2.68	75.22	29.72	9.92	24.01	74.28	114.5	.1751	3.90
			30.0	73.20	33.60	16.60	24.03	73.75	344.4	.2537	2.71	75.24	29.52	14.78	24.01	74.31	256.8	.1706	3.98
26	26.79	76.55	3.0	64.50	54.15	2.43	26.56	69.39	7.15	.3776	1.21	71.80	45.84	2.15	26.20	71.67	5.24	.3466	1.65
			4.0	69.64	45.36	2.85	26.19	71.78	9.88	.3434	1.62	73.75	39.94	2.56	26.08	72.89	7.50	.2935	2.13
			5.0	70.95	42.15	3.36	26.12	72.45	13.83	.3175	1.84	74.38	37.10	3.02	26.05	73.37	10.45	.2583	2.47
			6.0	71.55	40.45	3.89	26.09	72.77	18.71	.3004	1.99	74.67	35.58	3.49	26.03	73.62	14.05	.2350	2.72
			7.0	71.88	39.44	4.45	26.07	72.96	24.48	.2889	2.09	74.83	34.64	3.98	26.03	73.77	18.31	.2193	2.91
			8.0	72.08	38.78	5.01	26.07	73.08	31.15	.2808	2.16	74.93	34.03	4.48	26.02	73.86	23.21	.2082	3.05
			10.0	72.30	38.00	6.16	26.06	73.21	47.16	.2707	2.25	75.04	33.29	5.49	26.02	73.98	34.98	.1943	3.23
			12.0	72.42	37.57	7.32	26.05	73.29	66.73	.2649	2.31	75.10	32.88	6.52	26.02	74.04	49.36	.1863	3.36
			14.0	72.49	37.32	8.49	26.05	73.33	89.85	.2613	2.34	75.13	32.64	7.55	26.02	74.07	66.15	.1813	3.42
			16.0	72.53	37.15	9.66	26.05	73.36	116.5	.2590	2.37	75.16	32.48	8.59	26.01	74.10	85.95	.1780	3.47
			18.0	72.56	37.03	10.84	26.05	73.38	146.8	.2573	2.38	75.17	32.37	9.64	26.01	74.11	108.2	.1756	3.51
			20.0	72.59	36.95	12.02	26.05	73.39	180.6	.2561	2.39	75.18	32.29	10.68	26.01	74.13	133.0	.1740	3.54
			30.0	72.64	36.76	17.95	26.04	73.42	402.9	.2533	2.42	75.21	32.10	15.94	26.01	74.15	296.3	.1699	3.60
28	28.83	76.79	3.0	-	-	-	-	-	-	-	-	71.73	49.01	2.26	28.26	70.99	5.82	.3292	1.52
			4.0	67.71	49.54	3.04	28.28	70.84	11.34	.3318	1.44	73.30	42.54	2.70	28.10	72.52	8.37	.2806	1.99
			5.0	69.65	45.82	3.59	28.17	71.79	15.83	.3092	1.65	74.10	39.71	3.19	28.06	73.28	11.74	.2483	2.30
			6.0	70.46	43.96	4.17	28.13	72.22	21.45	.2941	1.79	74.47	38.17	3.71	28.04	73.57	15.88	.2273	2.52
			7.0	70.92	42.88	4.76	28.11	72.45	28.13	.2860	1.88	74.67	37.24	4.24	28.03	73.74	20.76	.2131	2.68
			8.0	71.17	42.18	5.37	28.09	72.60	35.84	.2769	1.94	74.80	36.62	4.77	28.03	73.85	26.40	.2033	2.80
			10.0	71.47	41.36	6.61	28.08	72.76	54.38	.2681	2.02	74.93	35.89	5.86	28.02	73.97	39.93	.1909	2.96
			12.0	71.62	40.92	7.86	28.08	72.85	77.04	.2631	2.07	75.01	35.49	6.97	28.02	73.84	56.46	.1838	3.06
			14.0	71.71	40.66	9.12	28.07	72.90	103.8	.2599	2.09	75.05	35.25	8.08	28.02	73.88	75.99	.1794	3.12
			16.0	71.77	40.48	10.39	28.07	72.94	134.7	.2579	2.11	75.08	35.09	9.20	28.02	73.91	98.52	.1765	3.16
			18.0	71.81	40.37	11.66	28.07	72.96	169.8	.2564	2.13	75.09	34.98	10.32	28.02	73.93	124.1	.1745	3.19
			20.0	71.84	40.28	12.93	28.07	72.98	208.9	.2554	2.14	75.11	34.90	11.44	28.02	73.94	152.6	.1730	3.22
			30.0	71.90	40.08	19.32	28.06	73.01	466.5	.2529	2.16	75.14	34.72	17.09	28.02	73.97	348.4	.1695	3.27

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(a) $\epsilon_p = 75°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.63	16.07	73.52	1.61	16.06	73.56	1.60	16.06	73.60	1.58	16.06	73.64	1.56	16.05	73.67	1.55	16.05	73.71
1.86	16.03	74.02	1.84	16.03	74.06	1.82	16.03	74.09	1.79	16.02	74.12	1.77	16.02	74.16	1.75	16.02	74.19
2.11	16.02	74.27	2.08	16.01	74.30	2.05	16.01	74.33	2.03	16.01	74.36	2.00	16.01	74.39	1.97	16.01	74.42
2.38	16.01	74.41	2.34	16.01	74.44	2.31	16.01	74.47	2.27	16.01	74.50	2.24	16.01	74.53	2.20	16.01	74.56
2.66	16.01	74.50	2.61	16.01	74.53	2.57	16.01	74.56	2.53	16.01	74.59	2.48	16.00	74.62	2.44	16.00	74.65
2.94	16.01	74.56	2.89	16.01	74.59	2.84	16.00	74.62	2.79	16.00	74.65	2.74	16.00	74.68	2.69	16.00	74.71
3.53	16.00	74.63	3.47	16.00	74.66	3.40	16.00	74.69	3.34	16.00	74.73	3.27	16.00	74.76	3.21	16.00	74.79
4.14	16.00	74.67	4.06	16.00	74.70	3.98	16.00	74.74	3.90	16.00	74.77	3.82	16.00	74.80	3.74	16.00	74.83
4.76	16.00	74.70	4.66	16.00	74.73	4.57	16.00	74.76	4.47	16.00	74.79	4.38	16.00	74.83	4.29	16.00	74.86
5.38	16.00	74.71	5.27	16.00	74.75	5.16	16.00	74.78	5.05	16.00	74.81	4.95	16.00	74.84	4.84	16.00	74.88
6.01	16.00	74.73	5.88	16.00	74.76	5.76	16.00	74.79	5.64	16.00	74.82	5.52	16.00	74.86	5.40	16.00	74.89
6.64	16.00	74.73	6.50	16.00	74.77	6.37	16.00	74.80	6.23	16.00	74.83	6.09	16.00	74.87	5.96	16.00	74.90
9.83	16.00	74.75	9.62	16.00	74.79	9.42	16.00	74.82	9.21	16.00	74.85	9.00	16.00	74.89	8.80	16.00	74.92
1.72	18.08	73.28	1.70	18.07	73.34	1.68	18.07	73.40	1.66	18.06	73.45	1.64	18.06	73.50	1.62	18.06	73.55
1.99	18.03	73.87	1.96	18.03	73.92	1.94	18.03	73.97	1.91	18.03	74.01	1.88	18.02	74.06	1.86	18.02	74.10
2.28	18.02	74.15	2.24	18.02	74.20	2.21	18.02	74.24	2.18	18.01	74.28	2.14	18.01	74.32	2.11	18.01	74.37
2.59	18.01	74.31	2.54	18.01	74.35	2.50	18.01	74.40	2.46	18.01	74.44	2.42	18.01	74.48	2.38	18.01	74.52
2.90	18.01	74.41	2.85	18.01	74.45	2.80	18.01	74.49	2.75	18.01	74.54	2.70	18.00	74.58	2.65	18.00	74.62
3.23	18.01	74.47	3.17	18.01	74.52	3.11	18.01	74.56	3.06	18.00	74.60	3.00	18.00	74.64	2.94	18.00	74.68
3.90	18.01	74.55	3.83	18.00	74.60	3.75	18.00	74.64	3.68	18.00	74.68	3.60	18.00	74.72	3.53	18.00	74.76
4.59	18.00	74.60	4.50	18.00	74.64	4.41	18.00	74.68	4.32	18.00	74.73	4.23	18.00	74.77	4.14	18.00	74.81
5.29	18.00	74.63	5.18	18.00	74.67	5.07	18.00	74.71	4.97	18.00	74.75	4.86	18.00	74.80	4.76	18.00	74.84
5.99	18.00	74.64	5.87	18.00	74.69	5.74	18.00	74.73	5.62	18.00	74.77	5.50	18.00	74.81	5.38	18.00	74.86
6.70	18.00	74.66	6.56	18.00	74.70	6.42	18.00	74.74	6.28	18.00	74.79	6.15	18.00	74.83	6.01	18.00	74.87
7.41	18.00	74.66	7.26	18.00	74.71	7.10	18.00	74.75	6.95	18.00	74.79	6.79	18.00	74.84	6.64	18.00	74.88
11.01	18.00	74.69	10.77	18.00	74.73	10.54	18.00	74.77	10.30	18.00	74.82	10.07	18.00	74.86	9.84	18.00	74.90
1.82	20.09	73.02	1.79	20.09	73.10	1.77	20.08	73.17	1.75	20.07	73.25	1.73	20.07	73.31	1.70	20.06	73.38
2.12	20.04	73.71	2.09	20.04	73.77	2.06	20.03	73.83	2.03	20.03	73.89	2.00	20.03	73.95	1.97	20.02	74.01
2.45	20.02	74.02	2.41	20.02	74.08	2.37	20.02	74.14	2.33	20.02	74.20	2.29	20.01	74.25	2.25	20.01	74.30
2.79	20.02	74.20	2.74	20.01	74.26	2.70	20.01	74.31	2.65	20.01	74.37	2.60	20.01	74.42	2.56	20.01	74.47
3.15	20.01	74.31	3.09	20.01	74.36	3.04	20.01	74.42	2.98	20.01	74.47	2.92	20.01	74.53	2.87	20.00	74.58
3.52	20.01	74.38	3.45	20.01	74.43	3.39	20.01	74.49	3.32	20.00	74.54	3.26	20.00	74.60	3.19	20.00	74.65
4.27	20.01	74.46	4.19	20.01	74.52	4.10	20.00	74.58	4.02	20.00	74.63	3.94	20.00	74.68	3.85	20.00	74.73
5.04	20.01	74.51	4.94	20.00	74.57	4.83	20.00	74.62	4.73	20.00	74.68	4.63	20.00	74.73	4.53	20.00	74.78
5.82	20.01	74.54	5.70	20.00	74.60	5.58	20.00	74.65	5.46	20.00	74.71	5.34	20.00	74.76	5.22	20.00	74.81
6.60	20.00	74.56	6.46	20.00	74.62	6.33	20.00	74.67	6.19	20.00	74.73	6.05	20.00	74.78	5.92	20.00	74.83
7.39	20.00	74.57	7.23	20.00	74.63	7.08	20.00	74.69	6.92	20.00	74.74	6.77	20.00	74.79	6.62	20.00	74.85
8.18	20.00	74.58	8.01	20.00	74.64	7.83	20.00	74.69	7.66	20.00	74.75	7.49	20.00	74.80	7.32	20.00	74.85
12.17	20.00	74.61	11.91	20.00	74.66	11.64	20.00	74.72	11.38	20.00	74.77	11.13	20.00	74.83	10.87	20.00	74.88
1.91	22.11	72.71	1.89	22.10	72.82	1.86	22.09	72.92	1.83	22.08	73.02	1.81	22.08	73.11	1.78	22.07	73.20
2.25	22.05	73.52	2.21	22.04	73.60	2.18	22.04	73.68	2.14	22.03	73.76	2.11	22.03	73.84	2.08	22.03	73.91
2.62	22.03	73.88	2.57	22.02	73.95	2.53	22.02	74.03	2.48	22.02	74.10	2.44	22.01	74.17	2.40	22.01	74.24
3.00	22.02	74.07	2.95	22.02	74.14	2.89	22.01	74.22	2.84	22.01	74.29	2.79	22.01	74.36	2.74	22.01	74.42
3.40	22.01	74.19	3.34	22.01	74.26	3.27	22.01	74.33	3.21	22.01	74.40	3.15	22.01	74.47	3.09	22.00	74.54
3.81	22.01	74.27	3.73	22.01	74.34	3.66	22.01	74.41	3.59	22.01	74.48	3.51	22.00	74.55	3.44	22.00	74.61
4.64	22.01	74.36	4.55	22.01	74.43	4.45	22.01	74.50	4.36	22.00	74.57	4.27	22.00	74.64	4.18	22.00	74.70
5.49	22.01	74.41	5.37	22.01	74.48	5.26	22.00	74.55	5.15	22.00	74.62	5.04	22.00	74.69	4.93	22.00	74.75
6.34	22.01	74.44	6.21	22.01	74.51	6.08	22.00	74.58	5.95	22.00	74.65	5.82	22.00	74.72	5.69	22.00	74.78
7.21	22.01	74.46	7.05	22.00	74.53	6.90	22.00	74.60	6.75	22.00	74.67	6.60	22.00	74.74	6.45	22.00	74.80
8.07	22.01	74.48	7.90	22.00	74.55	7.73	22.00	74.62	7.56	22.00	74.69	7.39	22.00	74.75	7.22	22.00	74.82
8.95	22.01	74.49	8.75	22.00	74.56	8.56	22.00	74.63	8.37	22.00	74.70	8.18	22.00	74.76	7.99	22.00	74.83
13.32	22.01	74.51	13.03	22.00	74.58	12.74	22.00	74.65	12.46	22.00	74.72	12.17	22.00	74.79	11.89	22.00	74.85
2.01	24.14	72.35	1.98	24.12	72.50	1.95	24.11	72.64	1.92	24.10	72.77	1.89	24.09	72.89	1.86	24.08	73.00
2.38	24.06	73.30	2.34	24.05	73.41	2.30	24.04	73.52	2.26	24.04	73.62	2.23	24.03	73.71	2.19	24.03	73.81
2.79	24.03	73.70	2.74	24.03	73.80	2.69	24.02	73.90	2.64	24.02	73.99	2.59	24.02	74.08	2.54	24.01	74.17
3.21	24.02	73.92	3.15	24.02	74.02	3.09	24.02	74.11	3.03	24.01	74.20	2.97	24.01	74.28	2.92	24.01	74.37
3.65	24.02	74.05	3.58	24.01	74.14	3.51	24.01	74.24	3.44	24.01	74.32	3.37	24.01	74.41	3.30	24.01	74.49
4.10	24.01	74.14	4.01	24.01	74.23	3.93	24.01	74.32	3.85	24.01	74.40	3.77	24.01	74.49	3.69	24.00	74.57
5.01	24.01	74.24	4.90	24.01	74.33	4.80	24.01	74.42	4.70	24.00	74.50	4.60	24.00	74.59	4.50	24.00	74.67
5.93	24.01	74.29	5.81	24.01	74.38	5.68	24.01	74.47	5.56	24.00	74.56	5.44	24.00	74.64	5.32	24.00	74.72
6.87	24.01	74.33	6.72	24.01	74.42	6.58	24.00	74.50	6.43	24.00	74.59	6.29	24.00	74.67	6.15	24.00	74.75
7.81	24.01	74.35	7.64	24.01	74.44	7.47	24.00	74.53	7.31	24.00	74.61	7.16	24.00	74.69	6.98	24.00	74.77
8.75	24.01	74.36	8.56	24.01	74.45	8.37	24.00	74.54	8.19	24.00	74.63	8.00	24.00	74.71	7.82	24.00	74.79
9.70	24.01	74.37	9.49	24.01	74.46	9.28	24.00	74.55	9.07	24.00	74.64	8.87	24.00	74.72	8.66	24.00	74.80
14.46	24.01	74.40	14.14	24.01	74.49	13.83	24.00	74.58	13.51	24.00	74.66	13.20	24.00	74.74	12.89	24.00	74.82
2.11	26.17	71.90	2.08	26.15	72.11	2.04	26.13	72.30	2.01	26.11	72.47	1.98	26.10	72.63	1.94	26.09	72.79
2.52	26.07	73.04	2.47	26.06	73.19	2.43	26.05	73.32	2.38	26.04	73.45	2.34	26.04	73.57	2.30	26.03	73.69
2.96	26.04	73.50	2.90	26.03	73.63	2.85	26.03	73.75	2.79	26.02	73.87	2.74	26.02	73.98	2.69	26.01	74.09
3.42	26.03	73.74	3.35	26.02	73.87	3.29	26.02	73.98	3.22	26.01	74.09	3.16	26.01	74.20	3.10	26.01	74.30
3.90	26.02	73.89	3.82	26.02	74.01	3.74	26.01	74.12	3.67	26.01	74.23	3.59	26.01	74.34	3.52	26.01	74.44
4.38	26.02	73.98	4.29	26.01	74.10	4.20	26.01	74.21	4.12	26.01	74.32	4.03	26.01	74.42	3.94	26.00	74.52
5.37	26.01	74.09	5.26	26.01	74.21	5.15	26.01	74.32	5.03	26.01	74.42	4.93	26.00	74.53	4.82	26.00	74.63
6.38	26.01	74.15	6.24	26.01	74.27	6.10	26.01	74.38	5.97	26.00	74.48	5.84	26.00	74.58	5.70	26.00	74.68
7.39	26.01	74.19	7.23	26.01	74.30	7.07	26.01	74.41	6.91	26.00	74.52	6.75	26.00	74.62	6.60	26.00	74.72
8.40	26.01	74.21	8.22	26.01	74.33	8.04	26.01	74.44	7.86	26.00	74.54	7.68	26.00	74.64	7.50	26.00	74.74
9.43	26.01	74.23	9.22	26.01	74.34	9.01	26.01	74.45	8.81	26.00	74.56	8.61	26.00	74.66	8.41	26.00	74.75
10.45	26.01	74.24	10.22	26.01	74.35	9.99	26.01	74.46	9.76	26.00	74.57	9.54	26.00	74.67	9.32	26.00	74.77
15.59	26.01	74.27	15.24	26.01	74.38	14.90	26.00	74.49	14.56	26.00	74.59	14.22	26.00	74.69	13.89	26.00	74.79
2.22	28.22	71.33	2.18	28.19	71.63	2.14	28.16	71.89	2.10	28.14	72.13	2.06	28.12	72.34	2.03	28.10	72.54
2.65	28.08	72.73	2.60	28.07	72.92	2.55	28.06	73.10	2.51	28.05	73.26	2.46	28.04	73.42	2.41	28.03	73.56
3.13	28.05	73.26	3.07	28.04	73.43	3.01	28.03	73.58	2.95	28.03	73.73	2.89	28.02	73.87	2.83	28.02	74.00
3.63	28.04	73.54	3.56	28.03	73.69	3.49	28.02	73.84	3.41	28.02	73.98	3.34	28.01	74.11	3.28	28.01	74.24
4.15	28.03	73.70	4.06	28.02	73.85	3.98	28.02	73.99	3.89	28.01	74.12	3.81	28.01	74.25	3.73	28.01	74.38
4.67	28.02	73.80	4.57	28.02	73.95	4.47	28.01	74.09	4.38	28.01	74.22	4.28	28.01	74.35	4.19	28.00	74.47
5.74	28.02	73.92	5.61	28.01	74.07	5.49	28.01	74.20	5.37	28.01	74.33	5.25	28.00	74.46	5.13	28.00	74.58
6.81	28.02	73.99	6.66	28.01	74.13	6.52	28.01	74.27	6.37	28.01	74.40	6.23	28.00	74.52	6.09	28.00	74.64
7.90	28.02	74.03	7.73	28.01	74.17	7.55	28.01	74.30	7.38	28.01	74.43	7.21	28.00	74.56	7.05	28.00	74.68
8.99	28.01	74.06	8.79	28.01	74.20	8.59	28.01	74.33	8.40	28.00	74.46	8.21	28.00	74.58	8.02	28.00	74.70
10.09	28.01	74.07	9.86	28.01	74.21	9.64	28.01	74.35	9.42	28.00	74.47	9.20	28.00	74.60	8.99	28.00	74.71
11.19	28.01	74.09	10.94	28.01	74.23	10.69	28.01	74.36	10.44	28.00	74.49	10.20	28.00	74.61	9.96	28.00	74.73
16.70	28.01	74.12	16.32	28.01	74.26	15.95	28.01	74.39	15.58	28.00	74.51	15.22	28.00	74.64	14.86	28.00	74.75

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(b) $\epsilon_p = 75°$; $\Gamma = 5°$; $\epsilon_r = 19.06°$

				$\gamma_e = \gamma_\infty = 1.67$							$\gamma_e = \gamma_\infty = 1.40$						
α, deg	δ_N, deg	ϵ_e, deg	M_∞	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	2.06	75.67	3.0	75.64	21.03	1.08	2.00	75.49	1.20	.8971	2.86	75.66	20.87	1.07	2.00	75.49	1.17	.8964	2.90
			4.0	75.65	15.97	1.10	2.00	75.54	1.26	.8695	3.78	75.66	15.81	1.09	2.00	75.54	1.22	.8683	3.85
			5.0	75.65	13.01	1.13	1.99	75.57	1.33	.8424	4.68	75.66	12.85	1.11	1.99	75.57	1.28	.8406	4.79
			6.0	75.65	11.06	1.15	1.99	75.58	1.41	.8163	5.57	75.67	10.90	1.13	1.99	75.59	1.34	.8138	5.72
			7.0	75.66	9.68	1.18	1.99	75.60	1.48	.7913	6.43	75.67	9.52	1.16	1.99	75.60	1.40	.7879	6.63
			8.0	75.66	8.66	1.20	1.99	75.61	1.56	.7674	7.27	75.67	8.50	1.18	1.99	75.61	1.46	.7631	7.54
			10.0	75.66	7.24	1.26	1.99	75.62	1.73	.7228	8.90	75.67	7.07	1.23	1.99	75.62	1.60	.7164	9.30
			12.0	75.66	6.30	1.32	1.99	75.63	1.92	.6824	10.45	75.67	6.13	1.28	1.99	75.63	1.75	.6737	11.01
			14.0	75.66	5.65	1.38	1.99	75.63	2.12	.6458	11.93	75.67	5.47	1.33	1.99	75.63	1.91	.6346	12.68
			16.0	75.66	5.16	1.44	1.99	75.64	2.34	.6128	13.33	75.67	4.98	1.39	1.99	75.64	2.08	.5988	14.29
			18.0	75.66	4.79	1.50	1.99	75.64	2.57	.5829	14.67	75.67	4.60	1.44	1.99	75.64	2.27	.5662	15.85
			20.0	75.66	4.49	1.57	1.99	75.64	2.82	.5559	15.93	75.67	4.30	1.50	1.99	75.64	2.48	.5364	17.37
			30.0	75.66	3.66	1.92	1.99	75.65	4.34	.4552	21.32	75.67	3.45	1.81	1.99	75.65	3.64	.4222	24.17
4	4.12	75.53	3.0	75.37	22.71	1.16	4.00	75.13	1.43	.8092	2.72	75.45	22.35	1.14	4.00	75.14	1.35	.8067	2.80
			4.0	75.42	17.60	1.21	3.99	75.24	1.58	.7630	3.57	75.48	17.25	1.19	3.99	75.24	1.48	.7588	3.71
			5.0	75.44	14.64	1.26	3.99	75.29	1.75	.7199	4.39	75.49	14.29	1.23	3.99	75.30	1.61	.7136	4.59
			6.0	75.45	12.72	1.32	3.99	75.33	1.93	.6804	5.17	75.49	12.36	1.28	3.99	75.34	1.76	.6717	5.45
			7.0	75.45	11.37	1.38	3.99	75.36	2.13	.6443	5.91	75.50	11.01	1.34	3.99	75.36	1.92	.6331	6.28
			8.0	75.45	10.38	1.44	3.99	75.37	2.35	.6116	6.61	75.50	10.01	1.39	3.99	75.38	2.09	.5978	7.09
			10.0	75.46	9.03	1.57	3.99	75.40	2.83	.5552	7.91	75.50	8.64	1.50	3.99	75.41	2.47	.5358	8.63
			12.0	75.46	8.16	1.70	3.99	75.41	3.38	.5091	9.08	75.50	7.76	1.62	3.99	75.42	2.90	.4861	10.06
			14.0	75.46	7.57	1.84	3.99	75.43	4.00	.4713	10.13	75.50	7.15	1.74	3.99	75.43	3.38	.4409	11.40
			16.0	75.46	7.14	1.99	3.99	75.43	4.70	.4402	11.05	75.50	6.71	1.87	3.99	75.44	3.92	.4049	12.64
			18.0	75.46	6.83	2.14	3.99	75.44	5.48	.4146	11.88	75.50	6.39	2.00	3.98	75.45	4.51	.3746	13.78
			20.0	75.46	6.58	2.29	3.99	75.44	6.33	.3933	12.61	75.50	6.13	2.14	3.98	75.45	5.16	.3491	14.82
			30.0	75.46	5.94	3.11	3.98	75.46	11.82	.3285	15.15	75.50	5.46	2.85	3.98	75.46	9.33	.2690	18.86
6	6.18	75.40	3.0	75.05	24.52	1.24	6.00	74.77	1.69	.7343	2.59	75.23	23.94	1.22	6.00	74.78	1.56	.7292	2.70
			4.0	75.16	19.37	1.33	5.99	74.93	1.95	.6766	3.38	75.29	18.80	1.29	5.99	74.95	1.77	.6680	3.57
			5.0	75.19	16.43	1.41	5.98	75.02	2.25	.6253	4.11	75.31	15.86	1.37	5.98	75.04	2.01	.6129	4.40
			6.0	75.21	14.55	1.51	5.98	75.07	2.59	.5805	4.79	75.32	13.97	1.45	5.98	75.09	2.28	.5640	5.18
			7.0	75.22	13.25	1.60	5.98	75.11	2.97	.5418	5.41	75.33	12.65	1.53	5.98	75.13	2.58	.5211	5.93
			8.0	75.23	12.31	1.71	5.98	75.14	3.39	.5084	5.99	75.33	11.70	1.62	5.98	75.16	2.90	.4836	6.65
			10.0	75.24	11.06	1.92	5.98	75.17	4.35	.4547	7.01	75.34	10.41	1.81	5.98	75.19	3.64	.4219	7.96
			12.0	75.24	10.27	2.14	5.98	75.20	5.48	.4144	7.86	75.34	9.60	2.00	5.99	75.21	4.51	.3746	9.12
			14.0	75.24	9.76	2.37	5.98	75.21	6.79	.3840	8.56	75.34	9.06	2.21	5.98	75.23	5.51	.3380	10.15
			16.0	75.25	9.39	2.61	5.98	75.22	8.28	.3608	9.15	75.34	8.68	2.42	5.98	75.24	6.64	.3095	11.04
			18.0	75.25	9.13	2.86	5.98	75.23	9.96	.3427	9.64	75.34	8.41	2.63	5.98	75.25	7.91	.2870	11.83
			20.0	75.25	8.93	3.11	5.98	75.23	11.82	.3286	10.04	75.34	8.20	2.85	5.98	75.25	9.32	.2691	12.51
			30.0	75.25	8.44	4.40	5.98	75.25	23.99	.2896	11.27	75.34	7.66	4.00	5.98	75.27	18.50	.2187	14.78
8	8.24	75.28	3.0	74.67	26.45	1.34	8.00	74.39	1.98	.6704	2.46	74.98	25.61	1.30	8.00	74.43	1.80	.6622	2.60
			4.0	74.86	21.27	1.45	7.99	74.62	2.38	.6065	3.18	75.10	20.46	1.40	7.98	74.65	2.11	.5930	3.43
			5.0	74.92	18.38	1.58	7.98	74.74	2.86	.5524	3.84	75.14	17.55	1.51	7.98	74.77	2.49	.5332	4.20
			6.0	74.96	16.55	1.71	7.98	74.81	3.40	.5074	4.43	75.16	15.70	1.62	7.97	74.84	2.91	.4827	4.92
			7.0	74.98	15.31	1.85	7.97	74.86	4.02	.4702	4.95	75.17	14.44	1.75	7.97	74.89	3.39	.4402	5.59
			8.0	74.99	14.42	1.99	7.97	74.89	4.72	.4396	5.42	75.17	13.53	1.87	7.97	74.93	3.92	.4045	6.20
			10.0	75.00	13.27	2.30	7.97	74.94	6.34	.3931	6.19	75.18	12.34	2.14	7.97	74.97	5.16	.3492	7.30
			12.0	75.01	12.57	2.61	7.97	74.96	8.28	.3608	6.80	75.18	11.61	2.41	7.97	75.00	6.64	.3096	8.22
			14.0	75.01	12.12	2.94	7.97	74.98	10.55	.3377	7.27	75.19	11.13	2.70	7.97	75.02	8.36	.2807	8.98
			16.0	75.02	11.81	3.27	7.97	74.99	13.16	.3208	7.64	75.19	10.80	3.00	7.97	75.03	10.33	.2593	9.62
			18.0	75.02	11.59	3.62	7.97	75.00	16.10	.3082	7.93	75.19	10.57	3.30	7.97	75.04	12.55	.2431	10.14
			20.0	75.02	11.42	3.96	7.97	75.01	19.38	.2987	8.16	75.19	10.39	3.61	7.97	75.05	15.02	.2307	10.58
			30.0	75.02	11.02	5.74	7.97	75.02	40.90	.2737	8.81	75.19	9.96	5.19	7.97	75.06	31.22	.1976	11.90
10	10.31	75.19	3.0	74.22	28.52	1.43	10.01	73.99	2.32	.6161	2.33	74.71	27.38	1.38	10.00	74.06	2.05	.6043	2.50
			4.0	74.51	23.31	1.58	9.98	74.29	2.88	.5498	3.00	74.89	22.22	1.51	9.98	74.35	2.50	.5310	3.29
			5.0	74.62	20.46	1.75	9.97	74.44	3.57	.4961	3.58	74.96	19.35	1.66	9.97	74.50	3.04	.4703	4.00
			6.0	74.68	18.69	1.92	9.97	74.53	4.38	.4535	4.08	74.99	17.56	1.81	9.97	74.59	3.65	.4211	4.65
			7.0	74.71	17.51	2.11	9.97	74.59	5.30	.4197	4.51	75.00	16.35	1.97	9.97	74.65	4.36	.3813	5.24
			8.0	74.73	16.68	2.30	9.97	74.63	6.35	.3929	4.89	75.02	15.49	2.14	9.97	74.69	5.16	.3491	5.77
			10.0	74.75	15.62	2.69	9.97	74.69	8.82	.3542	5.48	75.03	14.39	2.48	9.96	74.75	7.04	.3016	6.67
			12.0	74.76	15.00	3.10	9.96	74.72	11.81	.3286	5.91	75.03	13.73	2.85	9.96	74.78	9.30	.2694	7.38
			14.0	74.77	14.60	3.53	9.96	74.74	15.32	.3111	6.23	75.04	13.30	3.22	9.96	74.80	11.94	.2469	7.95
			16.0	74.77	14.33	3.96	9.96	74.75	19.36	.2987	6.47	75.04	13.02	3.60	9.96	74.81	14.99	.2308	8.39
			18.0	74.77	14.14	4.40	9.96	74.76	23.93	.2897	6.65	75.04	12.81	3.99	9.96	74.82	18.43	.2190	8.75
			20.0	74.77	14.00	4.84	9.96	74.77	29.03	.2829	6.79	75.04	12.66	4.38	9.96	74.83	22.26	.2100	9.03
			30.0	74.78	13.66	7.08	9.96	74.78	62.54	.2659	7.16	75.04	12.30	6.39	9.96	74.85	47.46	.1871	9.84
12	12.38	75.12	3.0	73.69	30.72	1.53	12.01	73.56	2.69	.5698	2.20	74.42	29.26	1.47	12.00	73.67	2.34	.5544	2.41
			4.0	74.13	25.49	1.72	11.98	73.94	3.45	.5038	2.81	74.68	24.07	1.63	11.98	74.03	2.94	.4797	3.15
			5.0	74.29	22.68	1.93	11.97	74.13	4.40	.4525	3.33	74.78	21.25	1.81	11.97	74.22	3.67	.4204	3.80
			6.0	74.37	20.97	2.15	11.97	74.24	5.52	.4134	3.76	74.82	19.51	2.00	11.96	74.33	4.52	.3741	4.39
			7.0	74.41	19.84	2.38	11.96	74.31	6.81	.3836	4.11	74.84	18.36	2.21	11.96	74.40	5.51	.3380	4.90
			8.0	74.44	19.07	2.61	11.96	74.35	8.29	.3606	4.41	74.86	17.56	2.41	11.96	74.45	6.63	.3098	5.35
			10.0	74.47	18.09	3.10	11.96	74.42	11.80	.3287	4.85	74.88	16.53	2.85	11.96	74.51	9.28	.2696	6.08
			12.0	74.49	17.52	3.61	11.96	74.47	16.07	.3084	5.17	74.89	15.93	3.29	11.96	74.55	12.49	.2435	6.63
			14.0	74.49	17.16	4.13	11.96	74.47	21.09	.2948	5.39	74.89	15.55	3.75	11.96	74.57	16.27	.2258	7.05
			16.0	74.50	16.92	4.66	11.96	74.49	26.88	.2855	5.55	74.89	15.30	4.22	11.96	74.58	20.62	.2134	7.37
			18.0	74.51	16.75	5.19	11.96	74.50	33.43	.2788	5.67	74.90	15.12	4.69	11.96	74.59	25.54	.2045	7.62
			20.0	74.51	16.63	5.72	11.96	74.50	40.74	.2738	5.76	74.90	14.99	5.17	11.95	74.60	31.04	.1978	7.81
			30.0	74.52	16.34	8.44	11.96	74.52	86.85	.2615	5.99	74.90	14.67	7.60	11.95	74.62	67.17	.1811	8.33
14	14.44	75.06	3.0	73.07	33.08	1.64	14.02	73.09	3.10	.5303	2.07	74.09	31.23	1.56	14.01	73.26	2.66	.5112	2.31
			4.0	73.68	27.79	1.86	13.98	73.56	4.10	.4663	2.64	74.46	26.02	1.75	13.97	73.71	3.43	.4372	3.00
			5.0	73.91	25.02	2.11	13.97	73.79	5.34	.4185	3.09	74.59	23.25	1.97	13.96	73.92	4.38	.3806	3.61
			6.0	74.02	23.36	2.38	13.96	73.91	6.83	.3833	3.45	74.65	21.57	2.21	13.96	74.02	5.51	.3380	4.13
			7.0	74.08	22.29	2.65	13.96	74.00	8.57	.3572	3.74	74.68	20.46	2.45	13.95	74.13	6.82	.3058	4.57
			8.0	74.12	21.55	2.94	13.96	74.05	10.65	.3377	3.98	74.71	19.70	2.70	13.95	74.19	8.32	.2812	4.95
			10.0	74.16	20.64	3.52	13.95	74.12	15.29	.3112	4.32	74.73	18.75	3.21	13.95	74.26	11.89	.2473	5.54
			12.0	74.19	20.12	4.13	13.95	74.16	21.06	.2949	4.55	74.74	18.20	3.75	13.95	74.30	16.22	.2260	5.97
			14.0	74.20	19.79	4.74	13.95	74.18	27.86	.2843	4.71	74.75	17.85	4.29	13.95	74.32	21.32	.2119	6.28
			16.0	74.21	19.58	5.36	13.95	74.20	35.70	.2770	4.82	74.75	17.62	4.84	13.95	74.34	27.21	.2022	6.52
			18.0	74.21	19.43	5.99	13.95	74.21	44.59	.2718	4.90	74.76	17.46	5.40	13.95	74.35	33.87	.1952	6.69
			20.0	74.22	19.32	6.62	13.95	74.22	54.51	.2680	4.96	74.76	17.35	5.96	13.95	74.36	41.31	.1901	6.82
			30.0	74.23	19.06	9.80	13.95	74.24	119.8	.2587	5.11	74.76	17.06	8.80	13.95	74.38	90.25	.1774	7.18

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(b) $\epsilon_p = 75°$; $\Gamma = 5°$; $\epsilon_r = 19.06°$- Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.07	2.00	75.49	1.07	2.00	75.49	1.06	2.00	75.49	1.06	2.00	75.49	1.06	2.00	75.49	1.06	2.00	75.49
1.09	2.00	75.54	1.09	2.00	75.54	1.08	2.00	75.54	1.08	2.00	75.54	1.08	2.00	75.54	1.08	2.00	75.54
1.11	1.99	75.57	1.11	1.99	75.57	1.10	1.99	75.57	1.10	1.99	75.57	1.10	1.99	75.57	1.10	1.99	75.57
1.13	1.99	75.59	1.13	1.99	75.59	1.13	1.99	75.59	1.12	1.99	75.59	1.12	1.99	75.59	1.12	1.99	75.59
1.15	1.99	75.60	1.15	1.99	75.60	1.15	1.99	75.60	1.14	1.99	75.60	1.14	1.99	75.60	1.14	1.99	75.60
1.18	1.99	75.61	1.17	1.99	75.61	1.17	1.99	75.61	1.17	1.99	75.61	1.16	1.99	75.61	1.16	1.99	75.61
1.23	1.99	75.62	1.22	1.99	75.62	1.22	1.99	75.62	1.21	1.99	75.62	1.21	1.99	75.62	1.20	1.99	75.62
1.28	1.99	75.63	1.27	1.99	75.63	1.26	1.99	75.63	1.26	1.99	75.63	1.25	1.99	75.63	1.24	1.99	75.63
1.33	1.99	75.63	1.32	1.99	75.63	1.31	1.99	75.64	1.30	1.99	75.64	1.30	1.99	75.64	1.29	1.99	75.64
1.38	1.99	75.64	1.37	1.99	75.64	1.36	1.99	75.64	1.35	1.99	75.64	1.34	1.99	75.64	1.33	1.99	75.64
1.43	1.99	75.64	1.42	1.99	75.64	1.41	1.99	75.64	1.40	1.99	75.64	1.39	1.99	75.64	1.38	1.99	75.64
1.49	1.99	75.65	1.48	1.99	75.65	1.47	1.99	75.65	1.45	1.99	75.65	1.44	1.99	75.65	1.43	1.99	75.65
1.79	1.99	75.65	1.77	1.99	75.65	1.75	1.99	75.65	1.73	1.99	75.65	1.71	1.99	75.65	1.69	1.99	75.65
1.14	4.00	75.14	1.13	4.00	75.14	1.13	4.00	75.14	1.13	4.00	75.14	1.13	4.00	75.14	1.12	4.00	75.15
1.18	3.99	75.24	1.18	3.99	75.24	1.17	3.99	75.25	1.17	3.99	75.25	1.17	3.99	75.25	1.16	3.99	75.25
1.23	3.99	75.30	1.22	3.99	75.30	1.22	3.99	75.30	1.21	3.99	75.30	1.21	3.99	75.31	1.20	3.99	75.31
1.28	3.99	75.34	1.27	3.99	75.34	1.26	3.99	75.34	1.26	3.99	75.34	1.25	3.99	75.34	1.25	3.99	75.34
1.33	3.99	75.36	1.32	3.99	75.36	1.31	3.99	75.37	1.31	3.99	75.37	1.30	3.99	75.37	1.29	3.99	75.37
1.38	3.99	75.38	1.37	3.99	75.38	1.36	3.99	75.38	1.35	3.99	75.39	1.34	3.99	75.39	1.34	3.99	75.39
1.49	3.99	75.41	1.48	3.99	75.41	1.47	3.99	75.41	1.45	3.99	75.41	1.44	3.99	75.41	1.43	3.99	75.41
1.61	3.99	75.42	1.59	3.99	75.42	1.57	3.99	75.43	1.56	3.99	75.43	1.55	3.99	75.43	1.53	3.99	75.43
1.72	3.99	75.43	1.71	3.99	75.44	1.69	3.99	75.44	1.67	3.99	75.44	1.65	3.99	75.44	1.63	3.99	75.44
1.85	3.99	75.44	1.83	3.99	75.44	1.81	3.99	75.45	1.78	3.98	75.45	1.76	3.98	75.45	1.74	3.98	75.45
1.98	3.98	75.45	1.95	3.98	75.45	1.93	3.98	75.45	1.90	3.98	75.45	1.88	3.98	75.45	1.85	3.98	75.46
2.11	3.98	75.45	2.08	3.98	75.45	2.05	3.98	75.46	2.02	3.98	75.46	2.00	3.98	75.46	1.97	3.98	75.46
2.81	3.98	75.47	2.76	3.98	75.47	2.71	3.98	75.47	2.67	3.98	75.47	2.62	3.98	75.47	2.58	3.98	75.47
1.21	6.00	74.79	1.21	6.00	74.79	1.20	6.00	74.80	1.20	6.00	74.80	1.19	6.00	74.80	1.19	6.00	74.81
1.28	5.99	74.95	1.28	5.99	74.95	1.27	5.99	74.96	1.26	5.99	74.96	1.26	5.99	74.96	1.25	5.99	74.97
1.36	5.98	75.04	1.35	5.98	75.04	1.34	5.98	75.04	1.33	5.98	75.05	1.32	5.98	75.05	1.31	5.98	75.05
1.44	5.98	75.09	1.43	5.98	75.10	1.42	5.98	75.10	1.41	5.98	75.10	1.39	5.98	75.11	1.38	5.98	75.11
1.52	5.98	75.13	1.51	5.98	75.13	1.49	5.98	75.14	1.48	5.98	75.14	1.47	5.98	75.14	1.46	5.98	75.15
1.61	5.98	75.16	1.59	5.98	75.16	1.58	5.98	75.17	1.56	5.98	75.17	1.55	5.98	75.17	1.53	5.98	75.17
1.79	5.98	75.20	1.77	5.98	75.20	1.75	5.98	75.20	1.73	5.98	75.21	1.71	5.98	75.21	1.69	5.98	75.21
1.98	5.98	75.22	1.95	5.98	75.22	1.93	5.98	75.22	1.90	5.98	75.23	1.88	5.98	75.23	1.85	5.98	75.23
2.18	5.98	75.23	2.14	5.98	75.24	2.11	5.98	75.24	2.08	5.98	75.24	2.06	5.98	75.25	2.03	5.98	75.25
2.38	5.98	75.24	2.34	5.98	75.25	2.31	5.98	75.25	2.27	5.98	75.25	2.24	5.98	75.26	2.20	5.98	75.26
2.59	5.98	75.25	2.55	5.98	75.26	2.51	5.98	75.26	2.47	5.98	75.26	2.43	5.98	75.27	2.39	5.98	75.27
2.81	5.98	75.26	2.76	5.98	75.26	2.71	5.98	75.26	2.67	5.98	75.27	2.62	5.98	75.27	2.58	5.98	75.28
3.93	5.98	75.27	3.85	5.98	75.28	3.78	5.98	75.28	3.71	5.98	75.28	3.63	5.98	75.29	3.56	5.98	75.29
1.29	8.00	74.43	1.28	8.00	74.44	1.28	8.00	74.45	1.27	8.00	74.45	1.26	8.00	74.46	1.25	8.00	74.47
1.39	7.98	74.66	1.38	7.98	74.66	1.37	7.98	74.67	1.36	7.98	74.67	1.35	7.98	74.68	1.34	7.98	74.69
1.50	7.98	74.78	1.48	7.98	74.78	1.47	7.98	74.79	1.46	7.98	74.79	1.45	7.98	74.80	1.43	7.98	74.80
1.61	7.97	74.85	1.59	7.97	74.86	1.58	7.97	74.86	1.56	7.97	74.87	1.55	7.97	74.87	1.53	7.97	74.88
1.73	7.97	74.90	1.71	7.97	74.90	1.69	7.97	74.91	1.67	7.97	74.92	1.65	7.97	74.92	1.64	7.97	74.93
1.85	7.97	74.93	1.83	7.97	74.94	1.81	7.97	74.95	1.79	7.97	74.95	1.76	7.97	74.96	1.74	7.97	74.96
2.11	7.97	74.98	2.08	7.97	74.99	2.05	7.97	74.99	2.02	7.97	75.00	1.99	7.97	75.01	1.97	7.97	75.01
2.38	7.97	75.01	2.34	7.97	75.01	2.31	7.97	75.02	2.27	7.97	75.03	2.24	7.97	75.03	2.20	7.97	75.04
2.66	7.97	75.03	2.62	7.97	75.03	2.57	7.97	75.04	2.53	7.97	75.05	2.49	7.97	75.05	2.45	7.97	75.06
2.95	7.97	75.04	2.90	7.97	75.05	2.85	7.97	75.05	2.80	7.97	75.06	2.75	7.97	75.07	2.70	7.97	75.07
3.24	7.97	75.05	3.19	7.97	75.05	3.13	7.97	75.06	3.07	7.97	75.07	3.02	7.97	75.08	2.96	7.97	75.08
3.54	7.97	75.05	3.48	7.97	75.06	3.41	7.97	75.07	3.35	7.97	75.08	3.29	7.97	75.08	3.22	7.97	75.09
5.09	7.97	75.07	4.99	7.97	75.08	4.89	7.97	75.09	4.79	7.97	75.09	4.69	7.97	75.10	4.59	7.97	75.11
1.37	10.00	74.07	1.36	10.00	74.08	1.35	10.00	74.09	1.34	10.00	74.10	1.33	10.00	74.11	1.32	10.00	74.12
1.50	9.98	74.36	1.49	9.98	74.37	1.47	9.98	74.38	1.46	9.98	74.39	1.45	9.98	74.40	1.44	9.98	74.41
1.64	9.97	74.51	1.62	9.97	74.52	1.61	9.97	74.53	1.59	9.97	74.54	1.58	9.97	74.55	1.56	9.97	74.56
1.79	9.97	74.60	1.77	9.97	74.61	1.75	9.97	74.62	1.73	9.97	74.63	1.71	9.97	74.64	1.69	9.97	74.65
1.95	9.97	74.66	1.92	9.97	74.67	1.90	9.97	74.68	1.87	9.97	74.69	1.85	9.96	74.70	1.82	9.96	74.71
2.11	9.96	74.70	2.08	9.96	74.71	2.05	9.96	74.72	2.02	9.96	74.73	1.99	9.96	74.74	1.97	9.96	74.75
2.45	9.96	74.76	2.41	9.96	74.77	2.37	9.96	74.78	2.34	9.96	74.79	2.30	9.96	74.80	2.26	9.96	74.81
2.80	9.96	74.79	2.75	9.96	74.80	2.71	9.96	74.81	2.66	9.96	74.82	2.62	9.96	74.83	2.57	9.96	74.84
3.17	9.96	74.81	3.11	9.96	74.82	3.05	9.96	74.83	3.00	9.96	74.84	2.95	9.96	74.86	2.89	9.96	74.87
3.54	9.96	74.83	3.47	9.96	74.84	3.41	9.96	74.85	3.35	9.96	74.86	3.28	9.96	74.87	3.22	9.96	74.88
3.92	9.96	74.84	3.84	9.96	74.85	3.77	9.96	74.86	3.70	9.96	74.87	3.62	9.96	74.88	3.55	9.96	74.89
4.30	9.96	74.84	4.22	9.96	74.85	4.14	9.96	74.87	4.05	9.96	74.88	3.97	9.96	74.89	3.89	9.96	74.90
6.26	9.96	74.86	6.13	9.96	74.87	6.01	9.96	74.88	5.88	9.96	74.90	5.75	9.96	74.91	5.63	9.96	74.92
1.45	12.00	73.69	1.44	12.00	73.71	1.43	12.00	73.73	1.42	12.00	73.74	1.41	12.00	73.76	1.40	11.99	73.78
1.62	11.98	74.05	1.60	11.97	74.07	1.58	11.97	74.08	1.57	11.97	74.10	1.55	11.97	74.11	1.54	11.97	74.13
1.79	11.97	74.23	1.77	11.97	74.25	1.75	11.96	74.27	1.73	11.96	74.28	1.71	11.96	74.30	1.69	11.96	74.31
1.98	11.96	74.34	1.95	11.96	74.36	1.93	11.96	74.38	1.90	11.96	74.39	1.88	11.96	74.41	1.85	11.96	74.42
2.17	11.96	74.41	2.14	11.96	74.43	2.11	11.96	74.45	2.08	11.96	74.46	2.05	11.96	74.48	2.02	11.96	74.49
2.38	11.96	74.46	2.34	11.96	74.48	2.30	11.96	74.50	2.27	11.96	74.51	2.23	11.96	74.53	2.20	11.96	74.54
2.80	11.96	74.53	2.75	11.96	74.54	2.71	11.96	74.56	2.66	11.96	74.58	2.61	11.96	74.59	2.57	11.95	74.61
3.24	11.96	74.56	3.18	11.96	74.58	3.12	11.96	74.60	3.06	11.95	74.61	3.01	11.95	74.63	2.95	11.95	74.65
3.68	11.96	74.59	3.62	11.95	74.60	3.55	11.95	74.62	3.48	11.95	74.64	3.41	11.95	74.65	3.35	11.95	74.67
4.14	11.95	74.60	4.06	11.95	74.62	3.98	11.95	74.64	3.90	11.95	74.65	3.83	11.95	74.67	3.75	11.95	74.69
4.60	11.95	74.61	4.51	11.95	74.63	4.42	11.95	74.65	4.33	11.95	74.66	4.25	11.95	74.68	4.16	11.95	74.70
5.07	11.95	74.62	4.97	11.95	74.64	4.87	11.95	74.65	4.77	11.95	74.67	4.67	11.95	74.69	4.57	11.95	74.71
7.44	11.95	74.64	7.29	11.95	74.66	7.13	11.95	74.67	6.98	11.95	74.69	6.83	11.95	74.71	6.67	11.95	74.73
1.54	14.01	73.29	1.53	14.00	73.32	1.51	14.00	73.35	1.50	14.00	73.38	1.48	14.00	73.40	1.47	13.99	73.43
1.74	13.97	73.73	1.72	13.97	73.76	1.70	13.97	73.78	1.68	13.97	73.80	1.66	13.97	73.83	1.64	13.97	73.85
1.95	13.96	73.95	1.92	13.96	73.97	1.90	13.96	74.00	1.87	13.96	74.02	1.85	13.96	74.04	1.82	13.96	74.06
2.17	13.96	74.08	2.14	13.95	74.10	2.11	13.95	74.12	2.08	13.95	74.15	2.05	13.95	74.17	2.02	13.95	74.19
2.41	13.95	74.16	2.37	13.95	74.18	2.34	13.95	74.20	2.30	13.95	74.23	2.26	13.95	74.25	2.23	13.95	74.27
2.65	13.95	74.21	2.61	13.95	74.24	2.57	13.95	74.26	2.52	13.95	74.28	2.48	13.95	74.31	2.44	13.95	74.33
3.16	13.95	74.28	3.10	13.95	74.31	3.05	13.95	74.33	2.99	13.95	74.35	2.94	13.95	74.38	2.88	13.95	74.40
3.68	13.95	74.32	3.61	13.95	74.35	3.54	13.95	74.37	3.47	13.95	74.40	3.41	13.95	74.42	3.34	13.95	74.44
4.21	13.95	74.35	4.13	13.95	74.37	4.05	13.95	74.40	3.97	13.95	74.42	3.89	13.95	74.44	3.81	13.95	74.47
4.75	13.95	74.36	4.66	13.95	74.39	4.56	13.95	74.41	4.47	13.95	74.44	4.38	13.95	74.46	4.28	13.95	74.49
5.29	13.95	74.38	5.19	13.95	74.40	5.08	13.95	74.43	4.98	13.95	74.45	4.87	13.95	74.47	4.77	13.95	74.50
5.84	13.95	74.38	5.72	13.95	74.41	5.61	13.95	74.43	5.49	13.95	74.46	5.37	13.95	74.48	5.25	13.95	74.51
8.62	13.96	74.40	8.44	13.95	74.43	8.26	13.95	74.45	8.08	13.95	74.48	7.90	13.95	74.50	7.72	13.95	74.53

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(b) $\epsilon_p = 75°$; $\Gamma = 5°$; $\epsilon_r = 19.06°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_{e_\infty} = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	16.51	75.02	3.0	72.33	35.61	1.75	16.04	72.57	3.57	.4964	1.95	73.72	33.30	1.65	16.01	72.83	3.00	.4738	2.20
			4.0	73.17	30.23	2.01	15.99	73.15	4.82	.4356	2.46	74.22	28.07	1.88	15.97	73.36	3.97	.4019	2.86
			5.0	73.48	27.48	2.31	15.97	73.41	6.41	.3916	2.86	74.39	25.33	2.14	15.96	73.61	5.17	.3488	3.41
			6.0	73.63	25.87	2.62	15.96	73.56	8.32	.3602	3.17	74.46	23.70	2.41	15.95	73.76	6.62	.3100	3.87
			7.0	73.71	24.83	2.94	15.95	73.66	10.56	.3376	3.41	74.52	22.64	2.69	15.95	73.85	8.31	.2814	4.25
			8.0	73.76	24.13	3.27	15.95	73.72	13.13	.3209	3.59	74.55	21.92	2.99	15.94	73.91	10.24	.2601	4.57
			10.0	73.82	23.28	3.95	15.95	73.80	19.28	.2989	3.86	74.58	21.03	3.59	15.94	73.99	14.85	.2314	5.05
			12.0	73.85	22.79	4.65	15.95	73.84	26.78	.2856	4.03	74.60	20.52	4.21	15.94	74.03	20.47	.2138	5.39
			14.0	73.87	22.49	5.36	15.95	73.86	35.62	.2771	4.14	74.61	20.20	4.83	15.94	74.06	27.09	.2023	5.63
			16.0	73.88	22.29	6.07	15.95	73.88	45.83	.2713	4.22	74.61	19.99	5.47	15.94	74.08	34.73	.1945	5.80
			18.0	73.89	22.15	6.79	15.95	73.89	57.39	.2672	4.28	74.62	19.84	6.11	15.94	74.09	43.38	.1890	5.93
			20.0	73.90	22.06	7.51	15.95	73.90	70.30	.2642	4.33	74.62	19.74	6.75	15.94	74.10	53.05	.1849	6.02
			30.0	73.91	21.82	11.15	15.94	73.92	155.3	.2570	4.43	74.63	19.48	10.01	15.94	74.12	116.6	.1750	6.27
18	18.58	75.00	3.0	71.44	38.35	1.86	18.06	71.97	4.08	.4672	1.82	73.29	35.49	1.74	18.02	72.35	3.37	.4413	2.10
			4.0	72.58	32.81	2.17	17.99	72.68	5.63	.4104	2.29	73.96	30.20	2.01	17.97	72.98	4.56	.3725	2.72
			5.0	72.99	30.07	2.51	17.97	73.00	7.60	.3703	2.64	74.19	27.50	2.31	17.95	73.28	6.05	.3230	3.22
			6.0	73.18	28.48	2.86	17.96	73.17	9.99	.3424	2.90	74.29	25.91	2.62	17.95	73.45	7.85	.2879	3.62
			7.0	73.29	27.48	3.23	17.95	73.28	12.80	.3227	3.10	74.35	24.89	2.95	17.94	73.55	9.96	.2627	3.95
			8.0	73.36	26.81	3.61	17.95	73.35	16.04	.3085	3.25	74.39	24.20	3.28	17.94	73.62	12.38	.2441	4.22
			10.0	73.44	25.99	4.38	17.95	73.44	23.77	.2899	3.46	74.43	23.36	3.96	17.94	73.70	18.17	.2197	4.62
			12.0	73.48	25.53	5.17	17.94	73.48	33.22	.2789	3.59	74.45	22.88	4.67	17.94	73.75	25.23	.2050	4.88
			14.0	73.51	25.25	5.97	17.94	73.51	44.37	.2719	3.68	74.47	22.58	5.38	17.93	73.78	33.55	.1955	5.06
			16.0	73.52	25.07	6.78	17.94	73.53	57.23	.2672	3.73	74.47	22.39	6.09	17.93	73.80	43.16	.1891	5.19
			18.0	73.53	24.94	7.59	17.94	73.55	71.81	.2639	3.78	74.48	22.25	6.82	17.93	73.81	54.04	.1846	5.29
			20.0	73.54	24.85	8.40	17.94	73.55	88.09	.2615	3.81	74.48	22.16	7.56	17.93	73.82	66.21	.1813	5.36
			30.0	73.56	24.63	12.50	17.94	73.58	195.2	.2557	3.89	74.49	21.92	11.20	17.93	73.84	146.2	.1733	5.54
20	20.65	75.00	3.0	70.34	41.34	1.98	20.10	71.26	4.66	.4417	1.68	72.80	37.81	1.84	20.04	71.83	3.78	.4131	1.99
			4.0	71.88	35.56	2.33	20.00	72.15	6.52	.3894	2.12	73.67	32.43	2.15	19.97	72.58	5.20	.3478	2.57
			5.0	72.42	32.79	2.71	19.97	72.53	8.92	.3531	2.43	73.96	29.74	2.48	19.95	72.92	7.01	.3021	3.03
			6.0	72.67	31.22	3.11	19.96	72.74	11.85	.3284	2.65	74.10	28.19	2.83	19.94	73.11	9.20	.2704	3.39
			7.0	72.81	30.23	3.52	19.95	72.86	15.29	.3112	2.82	74.18	27.20	3.20	19.94	73.22	11.78	.2481	3.67
			8.0	72.90	29.58	3.95	19.95	72.94	19.26	.2990	2.94	74.22	26.54	3.57	19.93	73.30	14.74	.2319	3.90
			10.0	73.00	28.79	4.82	19.94	73.04	28.77	.2832	3.11	74.28	25.73	4.34	19.93	73.39	21.83	.2109	4.22
			12.0	73.06	28.35	5.70	19.94	73.09	40.37	.2740	3.21	74.30	25.28	5.12	19.93	73.44	30.48	.1984	4.43
			14.0	73.09	28.08	6.59	19.94	73.10	54.09	.2682	3.28	74.32	25.00	5.92	19.93	73.48	40.69	.1905	4.58
			16.0	73.11	27.91	7.49	19.94	73.14	69.91	.2643	3.32	74.33	24.82	6.72	19.93	73.50	52.47	.1851	4.68
			18.0	73.12	27.79	8.39	19.94	73.16	87.83	.2616	3.35	74.34	24.70	7.52	19.93	73.51	65.81	.1814	4.75
			20.0	73.13	27.70	9.30	19.94	73.17	107.9	.2596	3.38	74.34	24.60	8.33	19.93	73.52	80.73	.1787	4.80
			30.0	73.16	27.49	13.85	19.94	73.19	239.7	.2548	3.44	74.36	24.39	12.39	19.93	73.54	178.8	.1721	4.94
22	22.73	75.02	3.0	68.91	44.69	2.11	22.17	70.37	5.32	.4192	1.55	71.27	40.26	1.94	22.06	71.23	4.22	.3883	1.88
			4.0	71.03	38.50	2.49	22.03	71.54	7.50	.3718	1.95	72.34	34.75	2.28	21.97	72.13	5.90	.3269	2.43
			5.0	71.74	35.66	2.91	21.98	71.99	10.38	.3391	2.23	73.71	32.07	2.65	21.95	72.53	8.06	.2849	2.84
			6.0	72.07	34.08	3.36	21.97	72.23	13.89	.3172	2.42	73.89	30.54	3.05	21.94	72.74	10.68	.2563	3.16
			7.0	72.25	33.10	3.82	21.96	72.38	18.03	.3022	2.56	73.99	29.58	3.45	21.93	72.87	13.76	.2365	3.41
			8.0	72.37	32.46	4.29	21.95	72.47	22.81	.2916	2.66	74.05	28.93	3.87	21.93	72.95	17.31	.2223	3.60
			10.0	72.50	31.69	5.25	21.95	72.58	34.26	.2781	2.80	74.11	28.16	4.72	21.92	73.06	25.82	.2041	3.86
			12.0	72.57	31.26	6.23	21.94	72.64	48.25	.2703	2.88	74.15	27.73	5.58	21.92	73.11	36.20	.1934	4.04
			14.0	72.61	31.00	7.21	21.94	72.68	64.78	.2653	2.93	74.17	27.46	6.46	21.92	73.15	48.47	.1867	4.15
			16.0	72.63	30.83	8.20	21.94	72.70	83.85	.2621	2.97	74.18	27.29	7.34	21.92	73.17	62.62	.1822	4.23
			18.0	72.65	30.71	9.19	21.94	72.71	105.5	.2598	2.99	74.19	27.17	8.22	21.92	73.18	78.65	.1790	4.29
			20.0	72.66	30.63	10.19	21.94	72.73	129.6	.2582	3.01	74.20	27.08	9.11	21.92	73.19	96.57	.1767	4.33
			30.0	72.69	30.43	15.19	21.94	72.75	288.5	.2542	3.05	74.21	26.88	13.56	21.92	73.22	214.5	.1712	4.43
24	24.79	75.06	3.0	66.91	48.67	2.25	24.29	69.17	6.10	.3986	1.40	70.52	42.89	2.04	24.09	70.54	4.70	.3665	1.77
			4.0	69.97	41.69	2.66	24.06	70.79	8.60	.3568	1.79	71.96	37.18	2.42	23.98	71.63	6.65	.3093	2.28
			5.0	70.91	38.71	3.13	24.00	71.36	11.98	.3275	2.04	73.43	34.48	2.83	23.95	72.09	9.18	.2707	2.66
			6.0	71.34	37.09	3.62	23.98	71.65	16.13	.3081	2.20	73.65	32.96	3.26	23.94	72.33	12.26	.2449	2.94
			7.0	71.58	36.11	4.13	23.97	71.82	21.04	.2950	2.32	73.78	32.01	3.71	23.93	72.48	15.90	.2272	3.15
			8.0	71.73	35.46	4.64	23.96	71.93	26.70	.2857	2.41	73.85	31.39	4.17	23.92	72.57	20.09	.2147	3.32
			10.0	71.90	34.69	5.69	23.95	72.05	40.28	.2741	2.52	73.93	30.63	5.10	23.92	72.69	30.12	.1988	3.54
			12.0	71.98	34.27	6.76	23.95	72.12	56.87	.2673	2.59	73.98	30.22	6.04	23.92	72.75	42.38	.1895	3.68
			14.0	72.04	34.02	7.83	23.94	72.16	76.48	.2631	2.63	74.00	29.96	6.99	23.92	72.78	56.87	.1837	3.77
			16.0	72.07	33.85	8.91	23.94	72.19	99.10	.2604	2.66	74.02	29.80	7.95	23.92	72.81	73.58	.1799	3.84
			18.0	72.09	33.73	10.00	23.94	72.21	124.7	.2584	2.68	74.03	29.68	8.91	23.92	72.82	92.52	.1772	3.88
			20.0	72.11	33.65	11.08	23.94	72.22	153.6	.2570	2.69	74.04	29.60	9.88	23.91	72.84	113.7	.1752	3.92
			30.0	72.15	33.45	16.54	23.94	72.25	341.9	.2537	2.73	74.06	29.40	14.73	23.91	72.86	252.9	.1705	4.00
26	26.86	75.11	3.0	63.27	54.31	2.44	26.61	67.05	7.17	.3771	1.20	67.63	46.75	2.15	26.14	69.71	5.22	.3471	1.65
			4.0	68.57	45.25	2.84	26.12	69.83	9.86	.3438	1.63	70.51	39.73	2.56	25.99	71.06	7.46	.2942	2.14
			5.0	69.87	42.01	3.35	26.04	70.58	13.76	.3178	1.85	72.11	36.98	3.01	25.95	71.60	10.39	.2588	2.48
			6.0	70.44	40.31	3.88	26.00	70.94	18.60	.3006	2.00	72.38	35.45	3.48	25.94	71.88	13.96	.2355	2.72
			7.0	70.76	39.29	4.43	25.98	71.15	24.33	.2891	2.10	72.54	34.52	3.97	25.93	72.04	18.19	.2196	2.92
			8.0	70.95	38.63	4.99	25.97	71.28	30.95	.2810	2.17	72.63	33.90	4.46	25.92	72.15	23.06	.2085	3.06
			10.0	71.17	37.85	6.14	25.96	71.43	46.84	.2708	2.27	72.73	33.16	5.47	25.92	72.27	34.74	.1945	3.25
			12.0	71.28	37.42	7.29	25.96	71.52	66.26	.2650	2.32	72.79	32.75	6.49	25.91	72.34	49.01	.1864	3.36
			14.0	71.35	37.16	8.46	25.95	71.58	89.22	.2614	2.36	72.82	32.51	7.52	25.91	72.38	65.87	.1814	3.44
			16.0	71.39	36.99	9.63	25.95	71.60	115.7	.2590	2.38	72.84	32.34	8.56	25.91	72.41	85.32	.1780	3.49
			18.0	71.42	36.88	10.80	25.95	71.62	145.7	.2574	2.39	72.85	32.23	9.60	25.91	72.43	107.4	.1757	3.53
			20.0	71.44	36.80	11.98	25.95	71.63	179.3	.2562	2.41	72.86	32.15	10.64	25.91	72.44	132.0	.1740	3.55
			30.0	71.49	36.60	17.99	25.95	71.67	400.0	.2533	2.43	72.89	31.96	15.88	25.91	72.47	294.1	.1700	3.62
28	28.93	75.19	3.0	-	-	-	-	-	-	-	-	64.45	48.94	2.26	28.22	68.65	5.80	.3295	1.52
			4.0	66.55	49.46	3.04	28.25	68.49	11.31	.3320	1.44	69.96	42.42	2.70	28.01	70.40	8.33	.2811	1.99
			5.0	68.48	45.68	3.58	28.10	69.68	15.76	.3095	1.66	71.72	39.58	3.19	27.96	71.04	11.67	.2488	2.31
			6.0	69.28	43.42	4.15	28.04	70.06	21.33	.2943	1.80	72.07	38.04	3.70	27.94	71.46	15.78	.2276	2.53
			7.0	69.71	42.12	4.75	28.02	70.33	27.96	.2841	1.89	72.26	37.10	4.22	27.93	71.55	20.63	.2134	2.70
			8.0	69.97	41.32	5.36	28.00	70.49	35.62	.2771	1.95	72.37	36.48	4.76	27.92	71.67	26.23	.2035	2.82
			10.0	70.25	40.50	6.59	27.99	70.68	54.03	.2682	2.03	72.50	35.75	5.84	27.92	71.82	39.65	.1911	2.98
			12.0	70.40	40.06	7.83	27.98	70.78	76.53	.2631	2.08	72.57	35.34	6.94	27.91	71.89	56.06	.1840	3.07
			14.0	70.49	39.79	9.07	27.97	70.84	103.1	.2600	2.11	72.61	35.10	8.05	27.91	71.94	75.44	.1795	3.14
			16.0	70.54	39.62	10.35	27.97	70.88	133.8	.2579	2.13	72.63	34.94	9.16	27.91	71.97	97.81	.1766	3.19
			18.0	70.58	39.50	11.62	27.97	70.90	168.6	.2565	2.14	72.65	34.83	10.28	27.91	71.99	123.2	.1744	3.21
			20.0	70.61	39.41	12.89	27.97	70.92	207.5	.2554	2.15	72.66	34.75	11.40	27.91	72.00	151.5	.1731	3.25
			30.0	70.67	39.23	19.25	27.97	70.97	463.2	.2530	2.17	72.69	34.57	17.02	27.91	72.04	337.9	.1695	3.32

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES-Continued

(b) $\epsilon_p = 75°$; $\Gamma = 5°$; $\epsilon_r = 19.06°$- Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.63	16.01	72.87	1.61	16.01	72.91	1.60	16.00	72.95	1.58	16.00	72.99	1.56	16.00	73.03	1.55	15.99	73.07
1.86	15.97	73.39	1.84	15.97	73.43	1.81	15.96	73.46	1.79	15.96	73.50	1.77	15.96	73.53	1.75	15.96	73.56
2.11	15.96	73.65	2.08	15.95	73.68	2.05	15.95	73.71	2.02	15.95	73.75	1.99	15.95	73.78	1.96	15.95	73.81
2.37	15.95	73.79	2.34	15.95	73.83	2.30	15.95	73.86	2.27	15.95	73.89	2.23	15.94	73.92	2.19	15.94	73.95
2.65	15.95	73.89	2.61	15.94	73.92	2.56	15.94	73.95	2.52	15.94	73.98	2.48	15.94	74.02	2.44	15.94	74.05
2.94	15.94	73.95	2.88	15.94	73.98	2.83	15.94	74.01	2.78	15.94	74.05	2.73	15.94	74.08	2.68	15.94	74.11
3.52	15.94	74.02	3.46	15.94	74.06	3.39	15.94	74.09	3.33	15.94	74.12	3.26	15.94	74.16	3.20	15.94	74.19
4.13	15.94	74.07	4.05	15.94	74.10	3.97	15.94	74.14	3.89	15.94	74.17	3.81	15.94	74.20	3.73	15.94	74.23
4.74	15.94	74.09	4.64	15.94	74.13	4.55	15.94	74.16	4.46	15.94	74.20	4.37	15.94	74.23	4.27	15.94	74.26
5.36	15.94	74.11	5.25	15.94	74.15	5.14	15.94	74.18	5.04	15.94	74.21	4.93	15.94	74.25	4.82	15.94	74.28
5.99	15.94	74.12	5.86	15.94	74.16	5.74	15.94	74.19	5.62	15.94	74.23	5.50	15.94	74.26	5.38	15.94	74.29
6.62	15.94	74.13	6.48	15.94	74.17	6.34	15.94	74.20	6.21	15.94	74.24	6.07	15.94	74.27	5.94	15.94	74.30
9.80	15.94	74.15	9.59	15.94	74.19	9.38	15.94	74.22	9.18	15.94	74.26	8.97	15.94	74.29	8.77	15.94	74.32
1.72	18.02	72.41	1.70	18.01	72.47	1.68	18.01	72.53	1.66	18.00	72.59	1.64	18.00	72.64	1.62	17.99	72.69
1.98	17.97	73.04	1.96	17.96	73.08	1.93	17.96	73.13	1.90	17.96	73.18	1.88	17.96	73.23	1.85	17.95	73.27
2.27	17.95	73.33	2.24	17.95	73.37	2.20	17.95	73.42	2.17	17.94	73.46	2.14	17.94	73.51	2.10	17.94	73.55
2.58	17.94	73.49	2.54	17.94	73.54	2.49	17.94	73.58	2.45	17.94	73.63	2.41	17.94	73.67	2.37	17.94	73.71
2.90	17.94	73.60	2.84	17.94	73.64	2.79	17.94	73.69	2.75	17.94	73.73	2.70	17.93	73.77	2.65	17.93	73.81
3.22	17.94	73.67	3.16	17.94	73.71	3.10	17.93	73.76	3.05	17.93	73.80	2.99	17.93	73.84	2.93	17.93	73.88
3.89	17.94	73.75	3.81	17.93	73.79	3.74	17.93	73.84	3.67	17.93	73.88	3.59	17.93	73.93	3.52	17.93	73.97
4.57	17.93	73.80	4.48	17.93	73.84	4.39	17.93	73.89	4.30	17.93	73.93	4.21	17.93	73.97	4.12	17.93	74.02
5.27	17.93	73.83	5.16	17.93	73.87	5.05	17.93	73.92	4.95	17.93	73.96	4.84	17.93	74.00	4.74	17.93	74.05
5.97	17.93	73.84	5.85	17.93	73.89	5.72	17.93	73.93	5.60	17.93	73.98	5.48	17.93	74.02	5.36	17.93	74.07
6.68	17.93	73.86	6.54	17.93	73.90	6.40	17.93	73.95	6.26	17.93	73.99	6.12	17.93	74.04	5.99	17.93	74.08
7.39	17.93	73.87	7.23	17.93	73.91	7.08	17.93	73.96	6.92	17.93	74.00	6.77	17.93	74.05	6.62	17.93	74.09
10.96	17.93	73.89	10.73	17.93	73.94	10.50	17.93	73.98	10.26	17.93	74.03	10.03	17.93	74.07	9.80	17.93	74.11
1.81	20.03	71.91	1.79	20.02	72.00	1.77	20.01	72.08	1.74	20.00	72.15	1.72	20.00	72.23	1.70	19.99	72.30
2.11	19.97	72.65	2.08	19.96	72.72	2.05	19.96	72.78	2.02	19.95	72.84	1.99	19.95	72.91	1.96	19.95	72.96
2.44	19.95	72.98	2.40	19.94	73.05	2.36	19.94	73.11	2.32	19.94	73.17	2.29	19.94	73.22	2.25	19.93	73.28
2.79	19.94	73.17	2.74	19.94	73.23	2.69	19.93	73.29	2.64	19.93	73.35	2.59	19.93	73.41	2.55	19.93	73.46
3.14	19.93	73.29	3.08	19.93	73.35	3.03	19.93	73.40	2.97	19.93	73.46	2.92	19.93	73.52	2.86	19.93	73.57
3.51	19.93	73.36	3.44	19.93	73.42	3.38	19.93	73.48	3.31	19.93	73.54	3.25	19.93	73.59	3.18	19.92	73.65
4.26	19.93	73.45	4.17	19.93	73.51	4.09	19.93	73.57	4.01	19.92	73.63	3.92	19.92	73.69	3.84	19.92	73.74
5.02	19.93	73.51	4.92	19.93	73.56	4.82	19.92	73.62	4.72	19.92	73.68	4.62	19.92	73.74	4.52	19.92	73.79
5.80	19.93	73.54	5.68	19.93	73.60	5.56	19.92	73.65	5.44	19.92	73.71	5.32	19.92	73.77	5.20	19.92	73.82
6.58	19.93	73.56	6.44	19.92	73.62	6.30	19.92	73.67	6.17	19.92	73.73	6.03	19.92	73.79	5.90	19.92	73.84
7.36	19.93	73.57	7.21	19.92	73.63	7.05	19.92	73.69	6.90	19.92	73.75	6.75	19.92	73.80	6.59	19.92	73.86
8.15	19.93	73.58	7.98	19.92	73.64	7.81	19.92	73.70	7.63	19.92	73.76	7.46	19.92	73.81	7.29	19.92	73.87
12.12	19.92	73.61	11.86	19.92	73.66	11.60	19.92	73.72	11.34	19.92	73.78	11.08	19.92	73.84	10.83	19.92	73.89
1.91	22.04	71.35	1.88	22.03	71.47	1.86	22.02	71.58	1.83	22.01	71.69	1.80	22.00	71.79	1.78	21.99	71.88
2.24	21.97	72.23	2.21	21.96	72.32	2.17	21.96	72.40	2.14	21.95	72.49	2.11	21.95	72.57	2.07	21.94	72.65
2.61	21.94	72.61	2.56	21.94	72.69	2.52	21.94	72.78	2.48	21.93	72.85	2.43	21.93	72.93	2.39	21.93	73.00
2.99	21.93	72.82	2.94	21.93	72.90	2.89	21.93	72.98	2.83	21.92	73.05	2.78	21.92	73.13	2.73	21.92	73.20
3.39	21.93	72.95	3.33	21.93	73.03	3.26	21.92	73.11	3.20	21.92	73.18	3.14	21.92	73.25	3.08	21.92	73.32
3.80	21.93	73.03	3.72	21.92	73.11	3.65	21.92	73.19	3.58	21.92	73.26	3.50	21.92	73.33	3.43	21.92	73.40
4.62	21.92	73.14	4.53	21.92	73.21	4.44	21.92	73.29	4.35	21.92	73.36	4.25	21.92	73.43	4.16	21.91	73.50
5.47	21.92	73.19	5.35	21.92	73.27	5.24	21.92	73.34	5.13	21.92	73.42	5.02	21.91	73.49	4.91	21.91	73.56
6.32	21.92	73.22	6.19	21.92	73.30	6.06	21.92	73.38	5.93	21.91	73.45	5.79	21.91	73.52	5.67	21.91	73.59
7.18	21.92	73.25	7.03	21.92	73.32	6.88	21.92	73.40	6.73	21.91	73.47	6.58	21.91	73.54	6.43	21.91	73.61
8.05	21.92	73.26	7.87	21.92	73.34	7.70	21.92	73.41	7.53	21.91	73.49	7.36	21.91	73.56	7.20	21.91	73.63
8.91	21.92	73.27	8.72	21.92	73.35	8.53	21.92	73.42	8.34	21.91	73.50	8.15	21.91	73.57	7.97	21.91	73.64
13.27	21.92	73.30	12.98	21.92	73.38	12.69	21.91	73.45	12.41	21.91	73.52	12.12	21.91	73.59	11.84	21.91	73.67
2.01	24.07	70.71	1.98	24.05	70.88	1.95	24.03	71.03	1.92	24.02	71.17	1.89	24.01	71.31	1.86	24.00	71.43
2.38	23.97	71.76	2.34	23.96	71.88	2.30	23.95	72.00	2.26	23.95	72.11	2.22	23.94	72.21	2.18	23.94	72.31
2.78	23.94	72.20	2.73	23.94	72.31	2.68	23.93	72.42	2.63	23.93	72.52	2.58	23.92	72.61	2.54	23.92	72.71
3.20	23.93	72.44	3.14	23.93	72.54	3.08	23.92	72.64	3.02	23.92	72.74	2.96	23.92	72.83	2.91	23.91	72.92
3.64	23.92	72.58	3.57	23.92	72.69	3.50	23.92	72.78	3.43	23.91	72.88	3.36	23.91	72.97	3.29	23.91	73.06
4.08	23.92	72.68	4.00	23.92	72.78	3.92	23.91	72.87	3.84	23.91	72.97	3.76	23.91	73.06	3.68	23.91	73.15
4.99	23.92	72.79	4.89	23.91	72.89	4.78	23.91	72.98	4.68	23.91	73.08	4.58	23.91	73.17	4.48	23.91	73.25
5.91	23.91	72.85	5.79	23.91	72.95	5.66	23.91	73.04	5.54	23.91	73.13	5.42	23.91	73.22	5.30	23.90	73.31
6.84	23.91	72.89	6.70	23.91	72.98	6.55	23.91	73.08	6.41	23.91	73.17	6.26	23.91	73.26	6.12	23.90	73.35
7.78	23.91	72.91	7.61	23.91	73.01	7.45	23.91	73.10	7.28	23.91	73.19	7.12	23.91	73.28	6.95	23.90	73.37
8.72	23.91	72.93	8.53	23.91	73.02	8.34	23.91	73.12	8.16	23.91	73.21	7.97	23.90	73.30	7.79	23.90	73.39
9.66	23.91	72.94	9.45	23.91	73.04	9.24	23.91	73.13	9.04	23.91	73.22	8.83	23.90	73.31	8.63	23.90	73.40
14.41	23.91	72.97	14.09	23.91	73.06	13.77	23.91	73.16	13.46	23.91	73.25	13.15	23.90	73.34	12.85	23.90	73.43
2.11	26.11	69.96	2.07	26.08	70.20	2.04	26.05	70.41	2.00	26.03	70.60	1.97	26.02	70.78	1.94	26.00	70.95
2.51	25.98	71.24	2.47	25.97	71.40	2.42	25.96	71.55	2.38	25.95	71.69	2.34	25.94	71.82	2.30	25.93	71.95
2.95	25.94	71.75	2.89	25.93	71.89	2.84	25.93	72.03	2.79	25.92	72.15	2.73	25.92	72.28	2.68	25.91	72.40
3.41	25.93	72.02	3.34	25.92	72.15	3.28	25.92	72.28	3.21	25.91	72.40	3.15	25.91	72.52	3.09	25.90	72.64
3.89	25.92	72.18	3.81	25.92	72.31	3.73	25.91	72.43	3.65	25.91	72.55	3.58	25.90	72.67	3.50	25.90	72.78
4.37	25.92	72.28	4.28	25.91	72.41	4.19	25.91	72.53	4.10	25.90	72.65	4.02	25.90	72.77	3.93	25.90	72.88
5.35	25.91	72.41	5.24	25.91	72.53	5.13	25.90	72.65	5.02	25.90	72.77	4.91	25.90	72.88	4.80	25.90	72.99
6.35	25.91	72.47	6.22	25.91	72.60	6.08	25.90	72.72	5.95	25.90	72.83	5.81	25.90	72.95	5.68	25.90	73.05
7.36	25.91	72.51	7.20	25.90	72.64	7.04	25.90	72.76	6.88	25.90	72.87	6.73	25.90	72.98	6.58	25.90	73.09
8.37	25.91	72.54	8.19	25.90	72.66	8.01	25.90	72.78	7.83	25.90	72.90	7.65	25.90	73.01	7.48	25.90	73.12
9.39	25.91	72.56	9.18	25.90	72.68	8.98	25.90	72.80	8.78	25.90	72.92	8.58	25.90	73.03	8.38	25.90	73.13
10.41	25.91	72.57	10.18	25.90	72.69	9.96	25.90	72.81	9.73	25.90	72.93	9.50	25.90	73.04	9.28	25.89	73.15
15.53	25.91	72.60	15.18	25.90	72.72	14.84	25.90	72.84	14.50	25.90	72.96	14.17	25.90	73.07	13.83	25.89	73.18
2.22	28.17	69.05	2.17	28.12	69.39	2.13	28.09	69.68	2.09	28.06	69.95	2.06	28.03	70.19	2.02	28.01	70.41
2.65	27.99	70.63	2.60	27.97	70.85	2.55	27.96	71.05	2.50	27.95	71.23	2.45	27.94	71.41	2.41	27.93	71.57
3.12	27.95	71.24	3.06	27.94	71.42	3.00	27.93	71.60	2.94	27.92	71.76	2.88	27.91	71.92	2.83	27.90	72.06
3.62	27.93	71.55	3.55	27.92	71.72	3.47	27.91	71.88	3.40	27.91	72.04	3.33	27.90	72.19	3.27	27.90	72.33
4.13	27.92	71.73	4.05	27.91	71.90	3.96	27.91	72.05	3.88	27.90	72.21	3.80	27.90	72.35	3.72	27.89	72.49
4.66	27.91	71.85	4.56	27.91	72.01	4.46	27.90	72.17	4.36	27.90	72.31	4.27	27.89	72.46	4.18	27.89	72.59
5.72	27.91	71.98	5.59	27.90	72.14	5.47	27.90	72.30	5.35	27.89	72.44	5.23	27.89	72.58	5.11	27.89	72.71
6.79	27.91	72.06	6.64	27.90	72.22	6.49	27.90	72.37	6.35	27.89	72.51	6.20	27.89	72.65	6.06	27.89	72.78
7.87	27.90	72.10	7.70	27.90	72.26	7.53	27.89	72.41	7.36	27.89	72.55	7.19	27.89	72.69	7.02	27.89	72.82
8.96	27.90	72.13	8.76	27.90	72.29	8.56	27.89	72.44	8.37	27.89	72.58	8.18	27.89	72.72	7.99	27.89	72.85
10.05	27.90	72.15	9.83	27.90	72.31	9.60	27.89	72.46	9.39	27.89	72.60	9.17	27.89	72.74	8.96	27.89	72.87
11.15	27.90	72.17	10.90	27.90	72.32	10.65	27.89	72.47	10.41	27.89	72.61	10.17	27.89	72.75	9.93	27.89	72.88
16.64	27.90	72.20	16.26	27.90	72.35	15.89	27.89	72.50	15.53	27.89	72.64	15.16	27.89	72.78	14.81	27.89	72.91

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(b) $\epsilon_p = 75°$; $\Gamma = 5°$; $\epsilon_r = 19.06°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
30	31.00	75.28	3.0	–	–	–	–	–	–	–	–	67.70	52.73	2.39	30.38	67.16	6.48	.3129	1.38
			4.0	62.40	55.82	3.31	30.64	65.44	13.44	.3193	1.20	71.26	45.29	2.84	30.04	69.61	9.26	.2698	1.65
			5.0	66.42	50.04	3.83	30.22	66.15	18.12	.3014	1.46	72.24	42.31	3.37	29.97	70.39	13.05	.2602	2.14
			6.0	67.56	47.79	4.44	30.13	66.87	24.46	.2889	1.59	72.68	40.72	3.91	29.95	70.77	17.71	.2511	2.34
			7.0	68.28	46.54	5.08	30.08	69.25	32.05	.2799	1.68	72.92	39.76	4.48	29.94	70.99	23.22	.2488	2.48
			8.0	68.65	45.76	5.73	30.06	69.47	40.84	.2737	1.73	73.06	39.14	5.05	29.92	71.13	29.58	.1993	2.59
			10.0	69.04	44.86	7.05	30.03	69.72	61.38	.2660	1.81	73.22	38.40	6.21	29.92	71.29	44.85	.1883	2.73
			12.0	69.25	44.38	8.39	30.02	69.85	87.86	.2616	1.85	73.31	38.00	7.39	29.91	71.38	63.52	.1815	2.81
			14.0	69.37	44.09	9.74	30.01	69.93	118.4	.2588	1.87	73.36	37.76	8.57	29.91	71.43	85.58	.1780	2.86
			16.0	69.44	43.90	11.09	30.01	69.98	153.7	.2570	1.89	73.39	37.60	9.76	29.91	71.47	111.0	.1754	2.90
			18.0	69.49	43.78	12.45	30.01	70.01	193.7	.2558	1.90	73.41	37.49	10.96	29.91	71.49	139.9	.1736	2.92
			20.0	69.53	43.68	13.81	30.00	70.04	238.5	.2549	1.91	73.42	37.42	12.15	29.91	71.51	172.1	.1723	2.94
			30.0	69.61	43.47	20.64	30.00	70.09	532.6	.2527	1.93	73.46	37.23	18.15	29.90	71.55	384.2	.1692	2.98
32	33.06	75.39	3.0	–	–	–	–	–	–	–	–	64.01	58.50	2.56	32.87	64.20	7.47	.2940	1.17
			4.0	–	–	–	–	–	–	–	–	70.34	48.62	2.99	32.10	68.61	10.28	.2598	1.69
			5.0	61.74	57.04	4.20	32.69	65.01	21.77	.2935	1.18	71.64	45.20	3.55	32.00	69.60	14.52	.2329	1.97
			6.0	64.97	52.86	4.78	32.33	66.47	28.36	.2837	1.36	72.20	43.53	4.13	31.96	70.07	19.76	.2156	2.15
			7.0	66.08	51.14	5.45	32.22	67.65	36.92	.2761	1.45	72.50	42.56	4.73	31.94	70.34	25.97	.2039	2.28
			8.0	66.68	50.15	6.14	32.17	68.01	46.93	.2708	1.51	72.68	41.90	5.34	31.93	70.50	33.14	.1959	2.37
			10.0	67.30	49.05	7.55	32.13	68.39	71.12	.2641	1.58	72.88	41.15	6.58	31.92	70.69	50.35	.1869	2.49
			12.0	67.61	48.48	8.99	32.10	68.64	100.7	.2602	1.62	72.99	40.74	7.83	31.92	70.79	71.39	.1803	2.56
			14.0	67.79	48.15	10.43	32.09	68.70	135.6	.2578	1.64	73.05	40.50	9.09	31.91	70.85	96.27	.1767	2.61
			16.0	67.90	47.93	11.88	32.08	68.77	174.7	.2562	1.66	73.09	40.34	10.36	31.91	70.89	125.0	.1744	2.64
			18.0	67.97	47.79	13.33	32.08	68.83	222.1	.2552	1.67	73.11	40.23	11.62	31.91	70.92	157.5	.1728	2.66
			20.0	68.02	47.68	14.79	32.07	68.86	273.3	.2544	1.68	73.13	40.15	12.90	31.91	70.94	193.8	.1717	2.68
			30.0	68.15	47.44	22.10	32.07	68.93	612.5	.2525	1.70	73.17	39.96	19.27	31.91	70.98	433.0	.1685	2.72
34	35.12	75.52	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	69.03	51.97	3.15	34.21	67.26	11.42	.2506	1.53
			5.0	–	–	–	–	–	–	–	–	70.84	48.31	3.73	34.04	68.63	16.10	.2264	1.80
			6.0	–	–	–	–	–	–	–	–	71.58	46.51	4.35	33.99	69.22	21.94	.2106	1.97
			7.0	–	–	–	–	–	–	–	–	71.96	45.46	4.99	33.96	69.55	28.88	.2001	2.08
			8.0	62.34	56.92	6.70	34.59	64.92	55.96	.2676	1.22	72.19	44.79	5.64	33.95	69.75	36.89	.1929	2.17
			10.0	64.12	54.72	8.16	34.39	66.05	83.10	.2622	1.32	72.45	44.01	6.95	33.93	69.98	56.15	.1839	2.27
			12.0	64.77	53.89	9.68	34.32	66.47	117.1	.2589	1.37	72.58	43.59	8.27	33.93	70.10	79.69	.1788	2.34
			14.0	65.12	53.38	11.23	34.28	66.70	157.4	.2569	1.39	72.66	43.33	9.61	33.92	70.17	107.5	.1757	2.37
			16.0	65.33	52.99	12.78	34.26	66.83	204.0	.2555	1.41	72.71	43.17	10.95	33.92	70.22	139.6	.1736	2.40
			18.0	65.47	52.78	14.33	34.25	66.92	256.8	.2546	1.42	72.74	43.06	12.29	33.92	70.25	176.0	.1722	2.42
			20.0	65.57	52.64	15.90	34.24	66.98	315.8	.2539	1.43	72.76	42.98	13.63	33.92	70.27	216.7	.1711	2.43
			30.0	65.79	52.30	23.74	34.22	67.12	704.6	.2523	1.45	72.82	42.79	20.38	33.91	70.33	484.3	.1687	2.47
36	37.18	75.67	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	66.76	56.51	3.34	36.45	66.27	12.82	.2416	1.34
			5.0	–	–	–	–	–	–	–	–	69.70	51.78	3.93	36.13	67.33	17.84	.2207	1.62
			6.0	–	–	–	–	–	–	–	–	70.73	49.74	4.58	36.04	68.15	24.29	.2064	1.78
			7.0	–	–	–	–	–	–	–	–	71.25	48.59	5.25	36.00	68.57	31.98	.1969	1.89
			8.0	–	–	–	–	–	–	–	–	71.55	47.86	5.93	35.98	68.83	40.89	.1903	1.97
			10.0	–	–	–	–	–	–	–	–	71.88	47.02	7.32	35.96	69.12	62.28	.1822	2.06
			12.0	–	–	–	–	–	–	–	–	72.05	46.58	8.72	35.95	69.27	88.46	.1776	2.12
			14.0	–	–	–	–	–	–	–	–	72.15	46.31	10.12	35.94	69.36	119.4	.1748	2.15
			16.0	–	–	–	–	–	–	–	–	72.21	46.14	11.54	35.94	69.41	155.1	.1729	2.18
			18.0	–	–	–	–	–	–	–	–	72.25	46.02	12.95	35.93	69.45	195.6	.1716	2.19
			20.0	–	–	–	–	–	–	–	–	72.28	45.93	14.37	35.93	69.48	240.8	.1707	2.20
			30.0	–	–	–	–	–	–	–	–	72.35	45.73	21.48	35.93	69.54	538.3	.1685	2.23
38	39.24	75.83	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	67.82	56.02	4.15	38.32	65.34	19.89	.2151	1.42
			6.0	–	–	–	–	–	–	–	–	69.47	53.60	4.82	38.14	66.66	26.90	.2026	1.59
			7.0	–	–	–	–	–	–	–	–	70.22	52.04	5.52	38.07	67.26	35.37	.1940	1.69
			8.0	–	–	–	–	–	–	–	–	70.64	51.21	6.24	38.04	67.64	45.20	.1881	1.77
			10.0	–	–	–	–	–	–	–	–	71.10	50.27	7.69	38.00	68.02	68.85	.1808	1.85
			12.0	–	–	–	–	–	–	–	–	71.32	49.78	9.16	37.99	68.22	97.79	.1766	1.90
			14.0	–	–	–	–	–	–	–	–	71.46	49.49	10.64	37.98	68.33	132.0	.1740	1.94
			16.0	–	–	–	–	–	–	–	–	71.54	49.30	12.13	37.97	68.40	171.5	.1723	1.96
			18.0	–	–	–	–	–	–	–	–	71.59	49.17	13.62	37.97	68.45	216.3	.1712	1.97
			20.0	–	–	–	–	–	–	–	–	71.63	49.08	15.11	37.96	68.49	266.3	.1703	1.98
			30.0	–	–	–	–	–	–	–	–	71.73	48.86	22.69	37.96	68.57	595.4	.1683	2.01
40	41.29	76.01	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	67.15	58.14	5.10	40.40	64.14	30.13	.1988	1.36
			7.0	–	–	–	–	–	–	–	–	68.54	56.16	5.81	40.23	65.33	39.27	.1913	1.48
			8.0	–	–	–	–	–	–	–	–	69.23	55.08	6.56	40.16	65.92	50.04	.1860	1.55
			10.0	–	–	–	–	–	–	–	–	69.92	53.93	8.08	40.09	66.51	76.06	.1794	1.64
			12.0	–	–	–	–	–	–	–	–	70.25	53.35	9.63	40.06	66.79	108.0	.1757	1.69
			14.0	–	–	–	–	–	–	–	–	70.44	53.00	11.18	40.05	66.95	145.7	.1733	1.72
			16.0	–	–	–	–	–	–	–	–	70.56	52.78	12.74	40.04	67.06	189.2	.1718	1.74
			18.0	–	–	–	–	–	–	–	–	70.64	52.64	14.31	40.03	67.13	238.6	.1707	1.75
			20.0	–	–	–	–	–	–	–	–	70.69	52.53	15.87	40.03	67.17	293.8	.1700	1.76
			30.0	–	–	–	–	–	–	–	–	70.82	52.28	23.73	40.02	67.29	656.9	.1681	1.79
42	43.34	76.21	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			7.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			8.0	–	–	–	–	–	–	–	–	56.05	60.74	6.38	42.58	62.40	56.66	.1838	1.28
			10.0	–	–	–	–	–	–	–	–	67.74	58.61	8.54	42.34	63.95	84.84	.1781	1.40
			12.0	–	–	–	–	–	–	–	–	68.38	57.72	10.15	42.26	64.52	119.9	.1748	1.45
			14.0	–	–	–	–	–	–	–	–	68.72	57.24	11.77	42.22	64.82	161.5	.1727	1.49
			16.0	–	–	–	–	–	–	–	–	68.92	56.94	13.41	42.20	65.01	208.6	.1713	1.51
			18.0	–	–	–	–	–	–	–	–	69.06	56.74	15.05	42.18	65.13	261.1	.1703	1.52
			20.0	–	–	–	–	–	–	–	–	69.15	56.60	16.70	42.17	65.21	318.1	.1697	1.53
			30.0	–	–	–	–	–	–	–	–	69.36	56.28	24.95	42.15	65.40	726.2	.1680	1.56

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(b) $\epsilon_p = 75°$; $\Gamma = 5°$; $\epsilon_r = 19.06°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
2.33	30.27	67.85	2.28	30.19	68.38	2.23	30.13	68.82	2.18	30.09	69.19	2.14	30.05	69.52	2.10	30.02	69.82
2.78	30.01	69.93	2.73	29.99	70.22	2.67	29.97	70.48	2.62	29.95	70.73	2.57	29.94	70.95	2.52	29.92	71.16
3.29	29.96	70.65	3.23	29.94	70.89	3.16	29.93	71.12	3.10	29.91	71.33	3.03	29.91	71.52	2.97	29.90	71.71
3.83	29.93	71.01	3.75	29.92	71.24	3.67	29.91	71.44	3.59	29.90	71.64	3.52	29.89	71.83	3.44	29.89	72.00
4.38	29.92	71.22	4.29	29.91	71.44	4.19	29.90	71.64	4.10	29.89	71.83	4.01	29.89	72.00	3.93	29.88	72.17
4.94	29.91	71.36	4.83	29.90	71.56	4.72	29.90	71.76	4.62	29.89	71.95	4.52	29.88	72.12	4.42	29.88	72.29
6.07	29.91	71.51	5.94	29.90	71.71	5.81	29.89	71.90	5.68	29.89	72.09	5.55	29.88	72.26	5.42	29.88	72.42
7.22	29.90	71.59	7.06	29.89	71.79	6.90	29.89	71.98	6.74	29.88	72.16	6.59	29.88	72.33	6.44	29.88	72.49
8.38	29.90	71.64	8.19	29.89	71.84	8.00	29.89	72.03	7.82	29.88	72.21	7.64	29.88	72.38	7.46	29.88	72.54
9.54	29.90	71.68	9.32	29.89	71.87	9.11	29.89	72.06	8.90	29.88	72.24	8.70	29.88	72.40	8.49	29.88	72.57
10.71	29.90	71.70	10.46	29.89	71.89	10.22	29.89	72.08	9.99	29.88	72.26	9.75	29.88	72.42	9.53	29.88	72.58
11.87	29.90	71.71	11.60	29.89	71.91	11.34	29.89	72.10	11.07	29.88	72.27	10.82	29.88	72.44	10.56	29.88	72.60
17.73	29.90	71.75	17.33	29.89	71.95	16.93	29.88	72.13	16.53	29.88	72.31	16.14	29.88	72.47	15.76	29.88	72.63
2.46	32.48	66.06	2.39	32.32	67.03	2.33	32.21	67.73	2.28	32.14	68.28	2.23	32.09	68.74	2.19	32.04	69.14
2.92	32.05	69.08	2.86	32.01	69.48	2.80	31.98	69.84	2.74	31.96	70.15	2.68	31.94	70.44	2.63	31.92	70.70
3.47	31.97	69.97	3.39	31.95	70.29	3.32	31.93	70.58	3.25	31.91	70.85	3.18	31.90	71.09	3.11	31.89	71.32
4.04	31.94	70.39	3.95	31.92	70.69	3.86	31.91	70.95	3.78	31.90	71.20	3.70	31.89	71.43	3.62	31.88	71.65
4.63	31.92	70.64	4.52	31.91	70.92	4.42	31.90	71.17	4.32	31.89	71.41	4.23	31.88	71.63	4.13	31.87	71.84
5.22	31.92	70.79	5.10	31.90	71.06	4.99	31.89	71.31	4.88	31.88	71.54	4.77	31.88	71.76	4.66	31.87	71.96
6.43	31.91	70.97	6.28	31.90	71.23	6.14	31.89	71.47	6.00	31.88	71.70	5.86	31.87	71.91	5.73	31.87	72.11
7.65	31.90	71.07	7.47	31.89	71.32	7.30	31.88	71.56	7.13	31.88	71.78	6.97	31.87	71.99	6.81	31.87	72.19
8.88	31.90	71.13	8.67	31.89	71.38	8.47	31.88	71.61	8.28	31.88	71.83	8.08	31.87	72.04	7.89	31.87	72.23
10.11	31.90	71.16	9.88	31.89	71.41	9.65	31.88	71.64	9.43	31.87	71.86	9.20	31.87	72.07	8.99	31.87	72.26
11.35	31.90	71.19	11.09	31.89	71.44	10.83	31.88	71.67	10.58	31.87	71.88	10.33	31.87	72.09	10.08	31.87	72.28
12.59	31.90	71.21	12.30	31.89	71.45	12.01	31.88	71.68	11.73	31.87	71.90	11.46	31.87	72.10	11.18	31.87	72.30
18.82	31.89	71.25	18.37	31.89	71.49	17.94	31.88	71.72	17.52	31.87	71.94	17.11	31.87	72.14	16.70	31.87	72.33
-	-	-	2.52	34.60	64.87	2.44	34.36	66.24	2.37	34.22	67.12	2.32	34.14	67.80	2.27	34.07	68.35
3.07	34.11	68.00	2.99	34.05	68.58	2.92	34.00	69.07	2.86	33.97	69.50	2.80	33.94	69.87	2.74	33.92	70.20
3.64	34.00	69.14	3.56	33.96	69.58	3.48	33.93	69.96	3.40	33.91	70.31	3.33	33.90	70.62	3.25	33.89	70.90
4.25	33.96	69.67	4.15	33.93	70.05	4.06	33.91	70.40	3.96	33.89	70.71	3.88	33.88	71.00	3.79	33.87	71.26
4.87	33.94	69.96	4.76	33.91	70.32	4.65	33.90	70.65	4.54	33.88	70.95	4.44	33.87	71.22	4.34	33.87	71.48
5.50	33.92	70.14	5.37	33.90	70.49	5.25	33.89	70.81	5.13	33.88	71.10	5.01	33.87	71.36	4.90	33.86	71.61
6.78	33.91	70.35	6.62	33.89	70.69	6.47	33.88	70.99	6.32	33.87	71.27	6.17	33.86	71.53	6.03	33.86	71.77
8.07	33.91	70.46	7.88	33.89	70.79	7.70	33.88	71.09	7.52	33.87	71.36	7.34	33.86	71.62	7.17	33.86	71.85
9.38	33.90	70.53	9.15	33.89	70.85	8.94	33.88	71.14	8.73	33.87	71.42	8.52	33.86	71.67	8.32	33.86	71.91
10.68	33.90	70.57	10.43	33.89	70.89	10.18	33.87	71.18	9.94	33.87	71.45	9.70	33.86	71.70	9.47	33.86	71.94
11.99	33.90	70.60	11.70	33.88	70.92	11.43	33.87	71.21	11.16	33.87	71.48	10.89	33.86	71.73	10.63	33.86	71.96
13.30	33.90	70.62	12.99	33.88	70.94	12.68	33.87	71.23	12.38	33.87	71.49	12.08	33.86	71.74	11.79	33.86	71.98
19.88	33.90	70.67	19.41	33.88	70.98	18.94	33.87	71.27	18.49	33.86	71.54	18.05	33.86	71.78	17.62	33.86	72.02
-	-	-	-	-	-	2.57	36.71	63.68	2.48	36.38	65.52	2.41	36.22	66.60	2.35	36.12	67.39
3.22	36.23	66.51	3.13	36.12	67.44	3.05	36.04	68.15	2.98	35.99	68.72	2.91	35.95	69.21	2.85	35.92	69.64
3.82	36.04	68.11	3.72	35.99	68.73	3.64	35.95	69.24	3.55	35.92	69.69	3.47	35.90	70.09	3.39	35.88	70.44
4.46	35.98	68.78	4.35	35.94	69.31	4.25	35.91	69.76	4.15	35.89	70.16	4.05	35.88	70.52	3.96	35.86	70.85
5.12	35.96	69.14	4.99	35.92	69.63	4.87	35.90	70.05	4.76	35.88	70.43	4.65	35.87	70.77	4.54	35.86	71.08
5.78	35.94	69.37	5.64	35.91	69.83	5.50	35.89	70.23	5.37	35.87	70.60	5.25	35.86	70.93	5.13	35.85	71.23
7.13	35.92	69.62	6.96	35.90	70.06	6.79	35.88	70.44	6.63	35.87	70.79	6.47	35.86	71.11	6.32	35.85	71.41
8.50	35.92	69.75	8.29	35.89	70.18	8.09	35.88	70.55	7.89	35.86	70.90	7.70	35.85	71.21	7.52	35.85	71.50
9.87	35.91	69.83	9.62	35.89	70.25	9.39	35.87	70.62	9.17	35.86	70.96	8.95	35.85	71.27	8.73	35.85	71.55
11.24	35.91	69.88	10.97	35.89	70.29	10.70	35.87	70.66	10.44	35.86	71.00	10.19	35.85	71.31	9.95	35.85	71.59
12.62	35.91	69.92	12.31	35.88	70.32	12.01	35.87	70.69	11.72	35.86	71.02	11.44	35.85	71.33	11.17	35.85	71.62
14.01	35.90	69.94	13.66	35.88	70.35	13.33	35.87	70.71	13.01	35.86	71.04	12.70	35.85	71.35	12.39	35.85	71.63
20.94	35.90	70.00	20.42	35.88	70.40	19.92	35.87	70.76	19.44	35.86	71.09	18.97	35.85	71.39	18.51	35.85	71.67
-	-	-	-	-	-	-	-	-	2.61	38.79	62.63	2.51	38.38	64.95	2.44	38.20	66.20
3.41	38.55	63.92	3.28	38.25	65.83	3.18	38.11	66.96	3.10	38.02	67.78	3.03	37.97	68.45	2.96	37.93	69.00
4.01	38.14	66.72	3.89	38.04	67.66	3.79	37.97	68.38	3.70	37.93	68.98	3.61	37.90	69.48	3.53	37.88	69.93
4.67	38.04	67.65	4.55	37.97	68.40	4.43	37.93	69.01	4.33	37.90	69.53	4.23	37.87	69.98	4.13	37.86	70.39
5.36	37.99	68.13	5.22	37.94	68.80	5.09	37.91	69.36	4.97	37.88	69.84	4.85	37.86	70.27	4.74	37.85	70.65
6.06	37.97	68.41	5.90	37.92	69.04	5.76	37.89	69.57	5.62	37.87	70.03	5.48	37.86	70.45	5.35	37.84	70.82
7.48	37.95	68.73	7.29	37.91	69.31	7.11	37.88	69.81	6.93	37.86	70.26	6.77	37.85	70.65	6.60	37.84	71.01
8.92	37.93	68.89	8.69	37.90	69.46	8.47	37.87	69.94	8.26	37.86	70.37	8.06	37.85	70.76	7.87	37.84	71.11
10.36	37.93	68.99	10.09	37.89	69.54	9.84	37.87	70.02	9.60	37.86	70.44	9.36	37.84	70.83	9.14	37.84	71.17
11.80	37.92	69.05	11.50	37.89	69.60	11.21	37.87	70.07	10.94	37.85	70.49	10.67	37.84	70.87	10.41	37.84	71.21
13.25	37.92	69.09	12.91	37.89	69.63	12.59	37.87	70.10	12.28	37.85	70.52	11.98	37.84	70.90	11.69	37.84	71.24
14.71	37.92	69.12	14.33	37.89	69.66	13.97	37.87	70.13	13.63	37.85	70.54	13.29	37.84	70.92	12.97	37.84	71.26
21.99	37.91	69.19	21.42	37.89	69.72	20.89	37.86	70.18	20.37	37.85	70.59	19.87	37.84	70.96	19.39	37.83	71.30
-	-	-	-	-	-	-	-	-	-	-	-	2.63	40.78	61.99	2.53	40.34	64.57
-	-	-	3.46	40.61	62.92	3.32	40.24	65.30	3.23	40.08	66.60	3.14	40.00	67.53	3.06	39.94	68.26
4.22	40.35	64.52	4.07	40.13	66.21	3.95	40.02	67.30	3.85	39.95	68.12	3.76	39.90	68.79	3.67	39.87	69.35
4.90	40.14	66.08	4.75	40.02	67.24	4.62	39.95	68.10	4.51	39.90	68.79	4.40	39.87	69.37	4.29	39.85	69.88
5.62	40.07	66.77	5.46	39.98	67.76	5.31	39.92	68.53	5.18	39.88	69.16	5.05	39.86	69.70	4.93	39.84	70.17
6.35	40.03	67.17	6.17	39.95	68.07	6.01	39.90	68.79	5.86	39.87	69.39	5.71	39.85	69.90	5.58	39.83	70.36
7.84	39.99	67.60	7.62	39.93	68.42	7.42	39.89	69.08	7.23	39.86	69.66	7.06	39.84	70.14	6.88	39.83	70.57
9.34	39.97	67.81	9.08	39.92	68.59	8.85	39.88	69.23	8.62	39.85	69.78	8.41	39.84	70.26	8.21	39.83	70.69
10.85	39.96	67.94	10.55	39.91	68.70	10.28	39.87	69.32	10.02	39.85	69.86	9.77	39.84	70.33	9.53	39.83	70.76
12.37	39.96	68.02	12.03	39.90	68.76	11.72	39.87	69.38	11.42	39.85	69.91	11.14	39.83	70.38	10.87	39.82	70.80
13.89	39.95	68.07	13.51	39.90	68.81	13.16	39.87	69.42	12.83	39.85	69.95	12.51	39.83	70.41	12.20	39.82	70.83
15.41	39.95	68.11	14.99	39.90	68.84	14.60	39.87	69.45	14.23	39.85	69.97	13.88	39.83	70.44	13.54	39.82	70.85
23.04	39.94	68.20	22.42	39.90	68.91	21.83	39.87	69.51	21.28	39.84	70.03	20.75	39.83	70.49	20.24	39.82	70.90
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.63	42.68	61.85
-	-	-	-	-	-	3.49	42.59	62.32	3.36	42.20	64.96	3.26	42.04	66.38	3.17	41.96	67.39
-	-	-	4.27	42.34	63.94	4.12	42.10	65.86	4.00	41.98	67.06	3.89	41.92	67.97	3.80	41.87	68.70
5.17	42.42	63.35	4.97	42.12	65.64	4.81	41.99	66.95	4.68	41.92	67.91	4.56	41.87	68.67	4.45	41.85	69.30
5.90	42.23	64.72	5.70	42.04	66.40	5.53	41.95	67.51	5.38	41.89	68.36	5.25	41.86	69.05	5.12	41.83	69.64
6.66	42.15	65.38	6.44	42.00	66.82	6.26	41.92	67.84	6.09	41.88	68.63	5.94	41.85	69.29	5.79	41.83	69.85
8.21	42.08	66.03	7.95	41.97	67.28	7.73	41.90	68.20	7.53	41.86	68.94	7.34	41.84	69.56	7.16	41.82	70.09
9.77	42.05	66.35	9.48	41.95	67.51	9.22	41.89	68.39	8.98	41.85	69.10	8.75	41.83	69.70	8.53	41.82	70.22
11.35	42.03	66.53	11.02	41.94	67.64	10.71	41.88	68.50	10.43	41.85	69.19	10.17	41.83	69.78	9.92	41.81	70.30
12.94	42.02	66.64	12.56	41.93	67.73	12.21	41.88	68.57	11.89	41.85	69.25	11.59	41.83	69.83	11.31	41.81	70.35
14.53	42.01	66.72	14.10	41.93	67.79	13.72	41.88	68.61	13.36	41.85	69.29	13.02	41.83	69.87	12.70	41.81	70.38
16.12	42.01	66.77	15.65	41.93	67.83	15.22	41.88	68.65	14.82	41.84	69.32	14.45	41.82	69.90	14.09	41.81	70.40
24.11	42.00	66.89	23.40	41.92	67.92	22.76	41.87	68.73	22.17	41.84	69.39	21.61	41.82	69.96	21.07	41.81	70.46

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(c) $\epsilon_p = 75°$; $\Gamma = 10°$; $\epsilon_r = 41.15°$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	2.01	78.42	3.0	78.38	21.01	1.08	1.97	78.27	1.20	.8983	2.86	78.40	20.85	1.07	1.97	78.27	1.16	.8977	2.90
			4.0	78.39	15.95	1.10	1.97	78.31	1.26	.8709	3.78	78.41	15.79	1.09	1.97	78.31	1.22	.8698	3.85
			5.0	78.40	12.99	1.12	1.97	78.34	1.33	.8441	4.69	78.41	12.83	1.11	1.97	78.34	1.27	.8423	4.80
			6.0	78.40	11.04	1.15	1.97	78.35	1.40	.8182	5.57	78.41	10.89	1.13	1.97	78.35	1.33	.8157	5.72
			7.0	78.40	9.66	1.18	1.97	78.36	1.48	.7933	6.43	78.41	9.51	1.16	1.97	78.36	1.39	.7900	6.64
			8.0	78.40	8.64	1.20	1.97	78.37	1.56	.7696	7.28	78.41	8.48	1.18	1.97	78.37	1.46	.7654	7.54
			10.0	78.40	7.22	1.26	1.97	78.38	1.72	.7253	8.91	78.41	7.06	1.23	1.97	78.38	1.59	.7190	9.31
			12.0	78.40	6.28	1.31	1.97	78.38	1.91	.6851	10.46	78.41	6.12	1.28	1.97	78.39	1.74	.6765	11.03
			14.0	78.40	5.63	1.37	1.97	78.39	2.11	.6486	11.95	78.41	5.45	1.33	1.97	78.39	1.90	.6376	12.69
			16.0	78.40	5.14	1.43	1.97	78.39	2.32	.6157	13.36	78.41	4.96	1.38	1.97	78.39	2.07	.6020	14.31
			18.0	78.40	4.77	1.50	1.97	78.40	2.55	.5858	14.70	78.41	4.58	1.44	1.97	78.40	2.25	.5694	15.88
			20.0	78.40	4.47	1.56	1.97	78.40	2.79	.5588	15.98	78.41	4.29	1.49	1.97	78.40	2.44	.5397	17.40
			30.0	78.40	3.64	1.90	1.97	78.40	4.28	.4579	21.40	78.41	3.43	1.79	1.97	78.40	3.59	.4253	24.24
4	4.03	78.10	3.0	77.92	22.67	1.16	3.95	77.78	1.42	.8113	2.72	78.01	22.32	1.14	3.95	77.78	1.35	.8089	2.80
			4.0	77.97	17.56	1.21	3.94	77.86	1.57	.7654	3.58	78.04	17.22	1.18	3.94	77.87	1.47	.7612	3.71
			5.0	77.99	14.60	1.26	3.94	77.91	1.74	.7225	4.60	78.05	14.26	1.23	3.94	77.91	1.60	.7163	4.60
			6.0	78.00	12.68	1.32	3.94	77.94	1.92	.6831	5.48	78.06	12.33	1.28	3.94	77.94	1.75	.6746	5.46
			7.0	78.01	11.33	1.37	3.94	77.96	2.11	.6472	5.92	78.06	10.97	1.33	3.94	77.96	1.90	.6362	6.29
			8.0	78.01	10.34	1.44	3.94	77.97	2.33	.6146	6.62	78.06	9.97	1.39	3.94	77.98	2.07	.6010	7.10
			10.0	78.01	8.98	1.56	3.94	77.99	2.80	.5582	7.93	78.06	8.60	1.50	3.94	78.00	2.44	.5391	8.64
			12.0	78.02	8.12	1.69	3.94	78.01	3.34	.5120	9.11	78.07	7.72	1.61	3.94	78.01	2.86	.4874	10.09
			14.0	78.02	7.52	1.83	3.94	78.01	3.95	.4740	10.16	78.07	7.11	1.73	3.94	78.02	3.34	.4441	11.43
			16.0	78.02	7.09	1.98	3.94	78.02	4.63	.4428	11.10	78.07	6.67	1.86	3.94	78.03	3.86	.4079	12.67
			18.0	78.02	6.78	2.12	3.94	78.03	5.39	.4170	11.94	78.07	6.34	1.99	3.94	78.03	4.45	.3775	13.82
			20.0	78.02	6.53	2.28	3.94	78.03	6.23	.3956	12.67	78.07	6.09	2.12	3.94	78.04	5.08	.3518	14.88
			30.0	78.02	5.89	3.08	3.94	78.04	11.60	.3300	15.26	78.07	5.41	2.83	3.94	78.05	9.16	.2709	18.96
6	6.05	77.78	3.0	77.39	24.65	1.24	5.91	77.27	1.68	.7369	2.59	77.59	23.87	1.21	5.92	77.28	1.55	.7319	2.70
			4.0	77.51	19.30	1.32	5.92	77.40	1.94	.6794	3.38	77.66	18.74	1.29	5.92	77.41	1.76	.6710	3.57
			5.0	77.55	16.37	1.41	5.91	77.47	2.23	.6282	4.12	77.69	15.80	1.36	5.91	77.49	2.00	.6160	4.40
			6.0	77.57	14.48	1.50	5.91	77.52	2.57	.5835	4.80	77.70	13.91	1.44	5.91	77.53	2.26	.5673	5.19
			7.0	77.59	13.18	1.60	5.91	77.55	2.94	.5448	5.43	77.71	12.59	1.53	5.91	77.56	2.55	.5245	5.95
			8.0	77.59	12.24	1.70	5.91	77.57	3.35	.5113	6.01	77.71	11.63	1.61	5.91	77.59	2.87	.4869	6.66
			10.0	77.60	10.98	1.90	5.91	77.60	4.29	.4574	7.04	77.72	10.35	1.80	5.91	77.62	3.60	.4250	7.98
			12.0	77.61	10.20	2.12	5.91	77.62	5.40	.4169	7.90	77.72	9.54	1.99	5.91	77.63	4.45	.3774	9.15
			14.0	77.61	9.68	2.35	5.91	77.63	6.68	.3862	8.61	77.72	9.00	2.19	5.91	77.65	5.42	.3406	10.19
			16.0	77.61	9.31	2.59	5.91	77.64	8.13	.3627	9.21	77.72	8.61	2.40	5.91	77.66	6.53	.3118	11.10
			18.0	77.61	9.05	2.83	5.91	77.65	9.77	.3444	9.70	77.72	8.33	2.61	5.91	77.66	7.77	.2891	11.89
			20.0	77.61	8.85	3.08	5.91	77.65	11.59	.3300	10.12	77.72	8.12	2.83	5.91	77.67	9.15	.2710	12.58
			30.0	77.61	8.35	4.36	5.91	77.66	23.49	.2904	11.38	77.72	7.59	3.96	5.91	77.68	18.13	.2198	14.90
8	8.07	77.49	3.0	76.80	26.35	1.33	7.90	76.74	1.97	.6735	2.46	77.15	25.53	1.29	7.90	76.77	1.78	.6653	2.61
			4.0	77.01	21.18	1.45	7.89	76.93	2.36	.6096	3.19	77.27	20.38	1.39	7.89	76.96	2.10	.5963	3.44
			5.0	77.08	18.28	1.57	7.88	77.03	2.83	.5554	3.85	77.32	17.47	1.50	7.88	77.06	2.46	.5366	4.21
			6.0	77.12	16.45	1.70	7.88	77.09	3.36	.5103	4.44	77.34	15.62	1.62	7.88	77.12	2.88	.4860	4.93
			7.0	77.14	15.21	1.84	7.88	77.13	3.97	.4730	4.97	77.35	14.35	1.74	7.88	77.16	3.35	.4434	5.60
			8.0	77.15	14.32	1.98	7.88	77.16	4.65	.4422	5.44	77.36	13.44	1.86	7.88	77.19	3.87	.4076	6.23
			10.0	77.17	13.16	2.28	7.88	77.20	6.24	.3954	6.23	77.37	12.25	2.12	7.88	77.23	5.08	.3519	7.33
			12.0	77.18	12.46	2.59	7.88	77.22	8.14	.3627	6.84	77.37	11.51	2.40	7.88	77.25	6.53	.3119	8.26
			14.0	77.18	12.01	2.91	7.88	77.23	10.36	.3393	7.32	77.37	11.03	2.68	7.88	77.27	8.21	.2827	9.03
			16.0	77.18	11.69	3.24	7.88	77.24	12.90	.3222	7.70	77.38	10.70	2.97	7.88	77.28	10.13	.2610	9.68
			18.0	77.19	11.47	3.58	7.88	77.25	15.78	.3094	8.00	77.38	10.47	3.27	7.88	77.28	12.30	.2446	10.21
			20.0	77.19	11.31	3.92	7.88	77.26	18.98	.2996	8.24	77.38	10.29	3.57	7.88	77.29	14.72	.2320	10.66
			30.0	77.19	10.90	5.67	7.88	77.27	40.01	.2742	8.91	77.38	9.85	5.13	7.88	77.30	30.56	.1983	12.01
10	10.10	77.20	3.0	76.14	28.38	1.43	9.88	76.19	2.09	.6193	2.34	77.68	27.27	1.37	9.88	76.24	2.04	.6077	2.51
			4.0	76.46	23.19	1.57	9.86	76.44	2.85	.5529	3.01	77.88	22.11	1.51	9.86	76.49	2.48	.5344	3.30
			5.0	76.58	20.33	1.74	9.86	76.57	3.53	.4991	3.59	77.94	19.24	1.65	9.85	76.62	3.00	.4736	4.01
			6.0	76.63	18.56	1.91	9.85	76.65	4.31	.4562	4.10	77.98	17.44	1.80	9.85	76.69	3.61	.4242	4.67
			7.0	76.67	17.38	2.09	9.85	76.70	5.22	.4223	4.54	78.00	16.23	1.96	9.85	76.75	4.30	.3843	5.26
			8.0	76.69	16.55	2.28	9.85	76.73	6.24	.3952	4.92	78.01	15.38	2.12	9.85	76.78	5.08	.3519	5.79
			10.0	76.71	15.48	2.67	9.85	76.78	8.66	.3561	5.51	78.02	14.27	2.46	9.85	76.83	6.92	.3039	6.70
			12.0	76.72	14.85	3.08	9.85	76.80	11.58	.3301	5.95	78.03	13.60	2.82	9.85	76.86	9.13	.2713	7.43
			14.0	76.73	14.45	3.49	9.85	76.82	15.01	.3123	6.28	78.03	13.18	3.19	9.85	76.87	11.72	.2485	8.00
			16.0	76.73	14.18	3.92	9.85	76.83	18.96	.2997	6.53	78.03	12.89	3.57	9.85	76.89	14.69	.2321	8.46
			18.0	76.74	13.99	4.35	9.85	76.84	23.43	.2905	6.71	78.04	12.68	3.95	9.85	76.89	18.05	.2200	8.82
			20.0	76.74	13.85	4.79	9.85	76.85	28.41	.2836	6.86	78.04	12.53	4.34	9.85	76.90	21.80	.2109	9.11
			30.0	76.75	13.51	7.01	9.85	76.86	61.16	.2662	7.24	78.04	12.16	6.32	9.85	76.92	46.43	.1875	9.95
12	12.13	76.94	3.0	75.41	30.55	1.52	11.86	75.60	2.66	.5731	2.21	78.18	29.11	1.46	11.85	75.70	2.32	.5579	2.41
			4.0	75.87	25.32	1.71	11.84	75.93	3.41	.5068	2.83	78.47	23.94	1.62	11.83	76.01	2.91	.4831	3.16
			5.0	76.04	22.52	1.91	11.83	76.09	4.33	.4553	3.35	78.57	21.11	1.80	11.82	76.17	3.62	.4236	3.82
			6.0	76.12	20.80	2.13	11.82	76.18	5.43	.4159	3.78	78.61	19.37	1.99	11.82	76.26	4.45	.3770	4.41
			7.0	76.17	19.68	2.36	11.82	76.24	6.70	.3858	4.14	78.64	18.22	2.19	11.82	76.32	5.42	.3407	4.92
			8.0	76.20	18.89	2.59	11.82	76.29	8.14	.3626	4.44	78.66	17.41	2.39	11.82	76.36	6.52	.3121	5.38
			10.0	76.23	17.91	3.08	11.82	76.34	11.58	.3302	4.89	78.67	16.38	2.82	11.82	76.42	9.11	.2715	6.12
			12.0	76.25	17.34	3.58	11.82	76.37	15.75	.3095	5.21	78.68	15.78	3.26	11.82	76.45	12.25	.2450	6.68
			14.0	76.26	16.98	4.09	11.82	76.39	20.65	.2958	5.44	78.69	15.39	3.72	11.82	76.47	15.94	.2270	7.11
			16.0	76.26	16.74	4.61	11.82	76.40	26.31	.2862	5.60	78.69	15.14	4.18	11.82	76.48	20.19	.2144	7.43
			18.0	76.27	16.57	5.13	11.82	76.41	32.71	.2794	5.73	78.70	14.95	4.64	11.82	76.49	25.01	.2053	7.69
			20.0	76.27	16.45	5.66	11.82	76.41	39.86	.2743	5.82	78.70	14.82	5.12	11.82	76.50	30.38	.1985	7.88
			30.0	76.28	16.15	8.35	11.82	76.43	86.86	.2617	6.06	78.70	14.50	7.51	11.82	76.51	65.68	.1814	8.42
14	14.17	76.69	3.0	74.59	32.86	1.63	13.84	74.98	3.06	.5336	2.08	78.66	31.05	1.55	13.83	75.12	2.63	.5147	2.31
			4.0	75.22	27.59	1.85	13.81	75.38	4.04	.4692	2.65	79.04	25.86	1.74	13.80	75.51	3.38	.4405	3.01
			5.0	75.46	24.87	2.10	13.80	75.68	5.26	.4210	3.11	79.18	23.08	1.96	13.80	75.70	4.31	.3836	3.62
			6.0	75.57	23.14	2.36	13.80	75.69	6.71	.3855	3.48	79.25	21.39	2.19	13.79	75.81	5.42	.3507	4.15
			7.0	75.64	22.08	2.63	13.79	75.76	8.41	.3591	3.77	79.28	20.29	2.43	13.79	75.88	6.71	.3081	4.60
			8.0	75.68	21.34	2.91	13.79	75.81	10.35	.3393	4.01	79.30	19.62	2.67	13.79	75.93	8.17	.2833	4.98
			10.0	75.72	20.43	3.49	13.79	75.87	14.99	.3124	4.36	79.33	18.56	3.18	13.79	75.99	11.66	.2489	5.58
			12.0	75.75	19.92	4.08	13.79	75.91	20.62	.2958	4.59	79.34	18.01	3.71	13.79	76.02	15.89	.2272	6.02
			14.0	75.76	19.57	4.69	13.79	75.93	27.27	.2850	4.76	79.35	17.66	4.25	13.79	76.05	20.88	.2129	6.34
			16.0	75.77	19.36	5.30	13.79	75.94	34.93	.2776	4.87	79.36	17.43	4.79	13.78	76.06	26.63	.2029	6.58
			18.0	75.78	19.21	5.92	13.79	75.95	43.61	.2723	4.95	79.36	17.27	5.34	13.78	76.07	33.14	.1959	6.76
			20.0	75.78	19.10	6.54	13.79	75.96	53.31	.2684	5.02	79.36	17.15	5.90	13.78	76.08	40.42	.1906	6.90
			30.0	75.79	18.83	9.68	13.79	75.97	117.1	.2589	5.18	79.37	16.87	8.70	13.78	76.10	88.24	.1777	7.26

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(c) $\epsilon_p = 75°$; $\Gamma = 10°$, $\epsilon_r = 41.15°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.07	1.97	78.27	1.06	1.97	78.28	1.06	1.97	78.28	1.06	1.97	78.28	1.06	1.97	78.28	1.06	1.97	78.28
1.09	1.97	78.31	1.08	1.97	78.31	1.08	1.97	78.32	1.08	1.97	78.32	1.08	1.97	78.32	1.08	1.97	78.32
1.11	1.97	78.34	1.11	1.97	78.34	1.10	1.97	78.34	1.10	1.97	78.34	1.10	1.97	78.34	1.10	1.97	78.34
1.13	1.97	78.35	1.13	1.97	78.35	1.12	1.97	78.35	1.12	1.97	78.35	1.12	1.97	78.35	1.12	1.97	78.35
1.15	1.97	78.36	1.15	1.97	78.36	1.15	1.97	78.36	1.14	1.97	78.36	1.14	1.97	78.36	1.14	1.97	78.36
1.18	1.97	78.37	1.17	1.97	78.37	1.17	1.97	78.37	1.16	1.97	78.37	1.16	1.97	78.37	1.16	1.97	78.37
1.22	1.97	78.38	1.22	1.97	78.38	1.21	1.97	78.38	1.21	1.97	78.38	1.20	1.97	78.38	1.20	1.97	78.38
1.27	1.97	78.39	1.27	1.97	78.39	1.26	1.97	78.39	1.25	1.97	78.39	1.25	1.97	78.39	1.24	1.97	78.39
1.32	1.97	78.39	1.31	1.97	78.39	1.31	1.97	78.39	1.30	1.97	78.39	1.29	1.97	78.39	1.28	1.97	78.39
1.37	1.97	78.39	1.37	1.97	78.39	1.36	1.97	78.39	1.35	1.97	78.39	1.34	1.97	78.39	1.33	1.97	78.39
1.43	1.97	78.40	1.42	1.97	78.40	1.41	1.97	78.40	1.40	1.97	78.40	1.39	1.97	78.40	1.38	1.97	78.40
1.48	1.97	78.40	1.47	1.97	78.40	1.46	1.97	78.40	1.45	1.97	78.40	1.44	1.97	78.40	1.42	1.97	78.40
1.78	1.97	78.40	1.76	1.97	78.41	1.74	1.97	78.41	1.72	1.97	78.41	1.70	1.97	78.41	1.68	1.97	78.41
1.14	3.95	77.78	1.13	3.95	77.78	1.13	3.95	77.79	1.13	3.95	77.79	1.12	3.95	77.79	1.12	3.95	77.79
1.18	3.94	77.87	1.18	3.94	77.87	1.17	3.94	77.87	1.17	3.94	77.87	1.16	3.94	77.87	1.16	3.94	77.87
1.23	3.94	77.91	1.22	3.94	77.91	1.22	3.94	77.92	1.21	3.94	77.92	1.21	3.94	77.92	1.20	3.94	77.92
1.27	3.94	77.94	1.27	3.94	77.94	1.26	3.94	77.95	1.26	3.94	77.95	1.25	3.94	77.95	1.24	3.94	77.95
1.32	3.94	77.96	1.32	3.94	77.96	1.31	3.94	77.97	1.30	3.94	77.97	1.29	3.94	77.97	1.29	3.94	77.97
1.38	3.94	77.98	1.37	3.94	77.98	1.36	3.94	77.98	1.35	3.94	77.98	1.34	3.94	77.98	1.33	3.94	77.98
1.48	3.94	78.00	1.47	3.94	78.00	1.46	3.94	78.00	1.45	3.94	78.00	1.44	3.94	78.00	1.43	3.94	78.00
1.60	3.94	78.01	1.58	3.94	78.01	1.57	3.94	78.01	1.55	3.94	78.02	1.54	3.94	78.02	1.52	3.94	78.02
1.71	3.94	78.02	1.70	3.94	78.02	1.68	3.94	78.02	1.66	3.94	78.02	1.64	3.94	78.03	1.63	3.94	78.03
1.84	3.94	78.03	1.82	3.94	78.03	1.79	3.94	78.03	1.77	3.94	78.03	1.75	3.94	78.03	1.73	3.94	78.03
1.96	3.94	78.03	1.94	3.94	78.03	1.91	3.94	78.03	1.89	3.94	78.04	1.87	3.94	78.04	1.84	3.94	78.04
2.09	3.94	78.04	2.07	3.94	78.04	2.04	3.94	78.04	2.01	3.94	78.04	1.98	3.94	78.04	1.95	3.94	78.04
2.78	3.94	78.05	2.74	3.94	78.05	2.69	3.94	78.05	2.65	3.94	78.05	2.60	3.94	78.05	2.56	3.94	78.05
1.21	5.92	77.28	1.20	5.92	77.29	1.20	5.92	77.29	1.19	5.92	77.29	1.19	5.92	77.30	1.18	5.92	77.30
1.28	5.92	77.42	1.27	5.92	77.42	1.27	5.92	77.42	1.26	5.92	77.42	1.25	5.92	77.43	1.25	5.92	77.43
1.35	5.91	77.49	1.34	5.91	77.49	1.34	5.91	77.49	1.33	5.91	77.50	1.32	5.91	77.50	1.31	5.91	77.50
1.43	5.91	77.53	1.42	5.91	77.54	1.41	5.91	77.54	1.40	5.91	77.54	1.39	5.91	77.54	1.38	5.91	77.55
1.51	5.91	77.57	1.50	5.91	77.57	1.49	5.91	77.57	1.48	5.91	77.57	1.46	5.91	77.58	1.45	5.91	77.58
1.60	5.91	77.59	1.58	5.91	77.59	1.57	5.91	77.59	1.55	5.91	77.60	1.54	5.91	77.60	1.52	5.91	77.60
1.78	5.91	77.62	1.76	5.91	77.62	1.74	5.91	77.62	1.72	5.91	77.63	1.70	5.91	77.63	1.68	5.91	77.63
1.96	5.91	77.64	1.94	5.91	77.64	1.91	5.91	77.64	1.89	5.91	77.65	1.87	5.91	77.65	1.84	5.91	77.65
2.16	5.91	77.65	2.13	5.91	77.65	2.10	5.91	77.66	2.07	5.91	77.66	2.04	5.91	77.66	2.01	5.91	77.66
2.36	5.91	77.66	2.33	5.91	77.66	2.29	5.91	77.66	2.26	5.91	77.67	2.22	5.91	77.67	2.19	5.91	77.67
2.57	5.91	77.66	2.53	5.91	77.67	2.49	5.91	77.67	2.45	5.91	77.67	2.41	5.91	77.68	2.37	5.91	77.68
2.78	5.91	77.67	2.73	5.91	77.67	2.69	5.91	77.68	2.64	5.91	77.68	2.60	5.91	77.68	2.55	5.91	77.68
3.89	5.91	77.68	3.81	5.91	77.69	3.74	5.91	77.69	3.67	5.91	77.69	3.60	5.91	77.69	3.53	5.91	77.70
1.29	7.90	76.78	1.28	7.90	76.78	1.27	7.90	76.79	1.26	7.90	76.79	1.26	7.90	76.80	1.25	7.90	76.80
1.38	7.89	76.96	1.37	7.89	76.97	1.36	7.89	76.97	1.36	7.89	76.98	1.35	7.89	76.98	1.34	7.89	76.99
1.49	7.88	77.06	1.48	7.88	77.07	1.46	7.88	77.07	1.45	7.88	77.08	1.44	7.88	77.08	1.43	7.88	77.09
1.60	7.88	77.12	1.59	7.88	77.13	1.57	7.88	77.13	1.56	7.88	77.14	1.54	7.88	77.14	1.53	7.88	77.15
1.72	7.88	77.16	1.70	7.88	77.17	1.68	7.88	77.17	1.66	7.88	77.18	1.64	7.88	77.18	1.63	7.88	77.19
1.84	7.88	77.19	1.82	7.88	77.20	1.80	7.88	77.20	1.77	7.88	77.21	1.75	7.88	77.21	1.73	7.88	77.22
2.09	7.88	77.23	2.06	7.88	77.24	2.04	7.88	77.24	2.01	7.88	77.25	1.98	7.88	77.25	1.95	7.88	77.26
2.36	7.88	77.26	2.32	7.88	77.26	2.29	7.88	77.27	2.26	7.88	77.27	2.22	7.88	77.28	2.19	7.88	77.28
2.64	7.88	77.27	2.59	7.88	77.28	2.55	7.88	77.28	2.51	7.88	77.29	2.47	7.88	77.29	2.43	7.88	77.30
2.92	7.88	77.28	2.87	7.88	77.29	2.82	7.88	77.29	2.77	7.88	77.30	2.73	7.88	77.30	2.68	7.88	77.31
3.21	7.88	77.29	3.16	7.88	77.29	3.10	7.88	77.30	3.04	7.88	77.31	2.99	7.88	77.31	2.93	7.88	77.32
3.51	7.88	77.29	3.44	7.88	77.30	3.38	7.88	77.31	3.32	7.88	77.31	3.26	7.88	77.32	3.19	7.88	77.32
5.03	7.88	77.31	4.93	7.88	77.31	4.83	7.88	77.32	4.74	7.88	77.33	4.64	7.88	77.33	4.54	7.88	77.34
1.37	9.88	76.25	1.36	9.87	76.26	1.35	9.87	76.27	1.34	9.87	76.28	1.33	9.87	76.29	1.32	9.87	76.30
1.49	9.86	76.50	1.48	9.86	76.51	1.47	9.86	76.52	1.46	9.86	76.52	1.44	9.86	76.53	1.43	9.86	76.54
1.63	9.85	76.63	1.62	9.85	76.63	1.60	9.85	76.64	1.58	9.85	76.65	1.57	9.85	76.66	1.55	9.85	76.67
1.78	9.85	76.70	1.76	9.85	76.71	1.74	9.85	76.72	1.72	9.85	76.73	1.70	9.85	76.74	1.68	9.85	76.75
1.93	9.85	76.75	1.91	9.85	76.76	1.88	9.85	76.77	1.86	9.85	76.78	1.84	9.85	76.79	1.81	9.85	76.80
2.09	9.85	76.79	2.06	9.85	76.80	2.04	9.85	76.81	2.01	9.85	76.82	1.98	9.85	76.83	1.95	9.85	76.83
2.43	9.85	76.84	2.39	9.85	76.85	2.35	9.85	76.86	2.32	9.85	76.86	2.28	9.85	76.87	2.24	9.85	76.88
2.78	9.85	76.87	2.73	9.85	76.87	2.68	9.85	76.88	2.64	9.85	76.89	2.59	9.85	76.90	2.55	9.85	76.91
3.14	9.85	76.88	3.08	9.85	76.89	3.03	9.85	76.90	2.97	9.85	76.91	2.92	9.85	76.92	2.86	9.85	76.93
3.50	9.85	76.90	3.44	9.85	76.90	3.38	9.85	76.91	3.31	9.85	76.92	3.25	9.85	76.93	3.19	9.85	76.94
3.88	9.85	76.90	3.81	9.85	76.91	3.73	9.85	76.92	3.66	9.85	76.93	3.59	9.85	76.94	3.52	9.85	76.95
4.26	9.85	76.91	4.18	9.85	76.92	4.09	9.85	76.93	4.01	9.85	76.94	3.93	9.85	76.95	3.85	9.85	76.96
6.19	9.85	76.93	6.07	9.85	76.93	5.94	9.85	76.94	5.82	9.85	76.95	5.69	9.85	76.96	5.57	9.85	76.97
1.45	11.85	75.71	1.44	11.85	75.73	1.42	11.85	75.74	1.41	11.85	75.76	1.40	11.85	75.77	1.39	11.85	75.79
1.61	11.83	76.02	1.59	11.83	76.04	1.58	11.83	76.05	1.56	11.83	76.06	1.54	11.83	76.08	1.53	11.83	76.09
1.78	11.82	76.18	1.76	11.82	76.19	1.74	11.82	76.21	1.72	11.82	76.22	1.70	11.82	76.23	1.68	11.82	76.25
1.96	11.82	76.27	1.94	11.82	76.29	1.91	11.82	76.30	1.89	11.82	76.31	1.87	11.82	76.33	1.84	11.82	76.34
2.16	11.82	76.34	2.13	11.82	76.35	2.10	11.82	76.36	2.07	11.82	76.38	2.04	11.82	76.39	2.01	11.82	76.40
2.36	11.82	76.38	2.32	11.82	76.39	2.29	11.82	76.41	2.25	11.82	76.42	2.22	11.82	76.43	2.18	11.82	76.45
2.77	11.82	76.43	2.73	11.82	76.45	2.68	11.82	76.46	2.64	11.82	76.47	2.59	11.82	76.49	2.55	11.82	76.50
3.21	11.82	76.46	3.15	11.82	76.48	3.09	11.82	76.49	3.04	11.82	76.51	2.98	11.82	76.52	2.92	11.82	76.53
3.65	11.82	76.48	3.58	11.82	76.50	3.51	11.82	76.51	3.45	11.82	76.53	3.38	11.82	76.54	3.31	11.82	76.55
4.10	11.82	76.50	4.02	11.82	76.51	3.94	11.82	76.53	3.87	11.82	76.54	3.79	11.82	76.55	3.71	11.82	76.57
4.56	11.82	76.51	4.47	11.82	76.52	4.38	11.82	76.54	4.29	11.82	76.55	4.20	11.82	76.56	4.11	11.82	76.58
5.02	11.82	76.51	4.92	11.82	76.53	4.82	11.82	76.54	4.72	11.82	76.56	4.62	11.82	76.57	4.52	11.82	76.59
7.36	11.82	76.53	7.21	11.82	76.54	7.06	11.82	76.56	6.90	11.82	76.57	6.75	11.82	76.59	6.60	11.82	76.60
1.53	13.83	75.15	1.52	13.83	75.17	1.50	13.83	75.19	1.49	13.82	75.22	1.48	13.82	75.24	1.46	13.82	75.26
1.73	13.80	75.53	1.71	13.80	75.55	1.69	13.80	75.57	1.67	13.80	75.59	1.65	13.80	75.61	1.63	13.80	75.63
1.93	13.79	75.72	1.91	13.79	75.74	1.89	13.79	75.76	1.86	13.79	75.78	1.84	13.79	75.80	1.81	13.79	75.82
2.16	13.79	75.83	2.13	13.79	75.85	2.10	13.79	75.87	2.07	13.79	75.89	2.04	13.79	75.91	2.01	13.79	75.93
2.39	13.79	75.90	2.35	13.79	75.92	2.32	13.79	75.94	2.28	13.79	75.96	2.25	13.79	75.98	2.21	13.79	76.00
2.63	13.79	75.95	2.59	13.79	75.97	2.55	13.79	75.99	2.50	13.79	76.01	2.46	13.79	76.03	2.42	13.79	76.05
3.13	13.79	76.01	3.07	13.79	76.03	3.02	13.78	76.05	2.96	13.78	76.07	2.91	13.78	76.09	2.86	13.78	76.11
3.64	13.79	76.05	3.57	13.78	76.07	3.51	13.78	76.09	3.44	13.78	76.11	3.37	13.78	76.13	3.31	13.78	76.15
4.17	13.78	76.07	4.09	13.78	76.09	4.01	13.78	76.11	3.93	13.78	76.13	3.85	13.78	76.15	3.77	13.78	76.17
4.70	13.78	76.08	4.61	13.78	76.10	4.51	13.78	76.13	4.42	13.78	76.15	4.33	13.78	76.17	4.24	13.78	76.19
5.24	13.78	76.09	5.13	13.78	76.11	5.03	13.78	76.14	4.92	13.78	76.16	4.82	13.78	76.18	4.72	13.78	76.20
5.78	13.78	76.10	5.66	13.78	76.12	5.55	13.78	76.14	5.43	13.78	76.16	5.31	13.78	76.19	5.20	13.78	76.21
8.53	13.78	76.12	8.35	13.78	76.14	8.17	13.78	76.16	7.99	13.78	76.18	7.81	13.78	76.20	7.64	13.78	76.23

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(c) $\epsilon_p = 75°$; $\Gamma = 10°$; $\epsilon_r = 41.15°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	16.21	76.45	3.0	73.66	35.34	1.74	15.93	74.29	3.52	.4997	1.96	7.09	33.09	1.64	15.81	74.51	2.96	.4773	2.21
			4.0	74.52	29.98	2.00	15.79	74.80	4.75	.4384	2.48	7.61	27.87	1.87	15.78	74.98	3.91	.4051	2.87
			5.0	74.83	27.24	2.29	15.77	75.03	6.30	.3940	2.88	7.79	25.13	2.12	15.77	75.21	5.09	.3515	3.43
			6.0	74.98	25.62	2.59	15.77	75.17	8.17	.3622	3.19	7.87	23.49	2.39	15.76	75.34	6.51	.3123	3.90
			7.0	75.07	24.50	2.91	15.76	75.25	10.36	.3392	3.44	7.92	22.43	2.67	15.76	75.42	8.16	.2835	4.28
			8.0	75.12	23.80	3.24	15.76	75.31	12.87	.3223	3.63	7.95	21.71	2.96	15.76	75.48	10.05	.2618	4.61
			10.0	75.18	23.07	3.91	15.76	75.37	18.88	.2999	3.90	7.98	20.81	3.55	15.75	75.54	14.56	.2327	5.10
			12.0	75.22	22.53	4.60	15.76	75.41	26.20	.2864	4.07	8.00	20.30	4.16	15.75	75.58	20.05	.2148	5.44
			14.0	75.24	22.23	5.30	15.76	75.43	34.85	.2776	4.19	8.01	19.98	4.78	15.75	75.61	26.52	.2031	5.68
			16.0	75.25	22.03	6.00	15.76	75.45	44.81	.2717	4.28	8.02	19.76	5.41	15.75	75.62	33.98	.1951	5.86
			18.0	75.26	21.88	6.71	15.76	75.46	56.11	.2676	4.34	8.02	19.62	6.04	15.75	75.63	42.44	.1895	5.99
			20.0	75.26	21.79	7.43	15.76	75.47	68.72	.2645	4.38	8.03	19.51	6.68	15.75	75.64	51.88	.1853	6.09
			30.0	75.28	21.56	11.02	15.76	75.49	151.7	.2571	4.49	8.03	19.25	9.89	15.75	75.66	114.0	.1752	6.35
18	18.26	76.23	3.0	72.60	38.01	1.85	17.83	73.53	4.02	.4704	1.83	7.48	35.24	1.73	17.79	73.86	3.33	.4448	2.11
			4.0	73.74	32.52	2.15	17.77	74.16	5.53	.4129	2.31	7.15	29.96	2.00	17.75	74.43	4.49	.3755	2.73
			5.0	74.15	29.78	2.48	17.75	74.45	7.46	.3724	2.66	7.38	27.26	2.29	17.74	74.69	5.95	.3256	3.24
			6.0	74.35	28.19	2.83	17.74	74.60	9.80	.3442	2.93	7.49	25.67	2.60	17.73	74.84	7.71	.2901	3.65
			7.0	74.46	27.19	3.20	17.74	74.70	12.55	.3241	3.13	7.56	24.65	2.92	17.73	74.93	9.77	.2645	3.99
			8.0	74.53	26.52	3.57	17.73	74.76	15.71	.3097	3.28	7.59	23.95	3.25	17.73	75.00	12.14	.2457	4.26
			10.0	74.61	25.70	4.34	17.73	74.84	23.27	.2908	3.50	7.64	23.10	3.92	17.72	75.07	17.80	.2208	4.66
			12.0	74.65	25.29	5.12	17.73	74.88	32.49	.2796	3.63	7.66	22.62	4.62	17.72	75.12	24.69	.2058	4.93
			14.0	74.67	24.95	5.91	17.73	74.91	43.38	.2724	3.72	7.67	22.33	5.32	17.72	75.14	32.83	.1961	5.12
			16.0	74.69	24.77	6.70	17.73	74.92	55.95	.2676	3.78	7.68	22.13	6.03	17.72	75.16	42.22	.1896	5.25
			18.0	74.70	24.64	7.50	17.73	74.94	70.18	.2642	3.83	7.69	21.99	6.74	17.72	75.17	52.85	.1850	5.35
			20.0	74.71	24.54	8.31	17.73	74.94	86.09	.2618	3.86	7.69	21.90	7.46	17.72	75.18	64.74	.1816	5.43
			30.0	74.73	24.32	12.36	17.73	74.96	190.7	.2558	3.94	7.70	21.66	11.07	17.72	75.20	142.9	.1735	5.61
20	20.31	76.03	3.0	71.35	40.93	1.97	19.83	72.66	4.58	.4449	1.70	7.80	37.51	1.83	19.78	73.15	3.72	.4165	2.01
			4.0	72.86	35.21	2.31	19.75	73.46	6.40	.3918	2.14	7.67	32.15	2.13	19.73	73.83	5.12	.3506	2.59
			5.0	73.39	32.45	2.68	19.73	73.80	8.75	.3550	2.45	7.96	29.47	2.46	19.71	74.14	6.89	.3044	3.05
			6.0	73.65	30.88	3.08	19.72	73.98	11.61	.3299	2.68	8.10	27.91	2.81	19.70	74.31	9.03	.2723	3.42
			7.0	73.79	29.89	3.49	19.71	74.10	14.98	.3125	2.85	8.18	26.92	3.17	19.70	74.42	11.55	.2496	3.70
			8.0	73.88	29.24	3.91	19.71	74.17	18.85	.3000	2.98	8.23	26.26	3.54	19.69	74.49	14.45	.2332	3.93
			10.0	73.98	28.45	4.76	19.70	74.26	28.14	.2839	3.15	8.28	25.45	4.30	19.69	74.58	21.37	.2118	4.27
			12.0	74.04	28.01	5.64	19.70	74.30	39.47	.2745	3.25	8.31	24.99	5.07	19.69	74.62	29.82	.1991	4.48
			14.0	74.07	27.74	6.52	19.70	74.33	52.86	.2686	3.32	8.33	24.71	5.85	19.69	74.65	39.80	.1910	4.63
			16.0	74.09	27.56	7.40	19.70	74.35	68.31	.2646	3.37	8.34	24.53	6.64	19.69	74.67	51.31	.1856	4.73
			18.0	74.10	27.44	8.29	19.70	74.37	85.82	.2618	3.40	8.35	24.40	7.44	19.69	74.68	64.35	.1817	4.81
			20.0	74.11	27.35	9.19	19.70	74.37	105.4	.2598	3.43	8.35	24.31	8.23	19.69	74.69	78.92	.1790	4.87
			30.0	74.14	27.14	13.69	19.70	74.40	234.1	.2549	3.49	8.36	24.09	12.25	19.69	74.71	174.8	.1722	5.01
22	22.36	75.85	3.0	69.82	44.17	2.09	21.86	71.67	5.22	.4223	1.67	8.05	39.91	1.92	21.77	72.37	4.16	.3916	1.90
			4.0	71.88	38.08	2.47	21.74	72.66	7.36	.3740	1.98	7.15	34.43	2.26	21.70	73.19	5.80	.3296	2.45
			5.0	72.55	35.26	2.89	21.71	73.08	10.17	.3409	2.26	7.53	31.75	2.63	21.68	73.55	7.91	.2870	2.87
			6.0	72.87	33.68	3.33	21.70	73.30	13.60	.3186	2.45	7.70	30.22	3.02	21.67	73.75	10.47	.2581	3.19
			7.0	73.06	32.71	3.78	21.69	73.43	17.65	.3033	2.59	7.80	29.26	3.42	21.67	73.87	13.49	.2379	3.44
			8.0	73.17	32.06	4.25	21.68	73.51	22.31	.2925	2.70	7.86	28.61	3.83	21.66	73.95	16.96	.2234	3.63
			10.0	73.30	31.29	5.19	21.68	73.61	33.50	.2787	2.84	7.93	27.83	4.67	21.66	74.05	25.27	.2049	3.91
			12.0	73.37	30.86	6.16	21.67	73.67	47.16	.2707	2.92	7.96	27.40	5.52	21.66	74.10	35.41	.1940	4.09
			14.0	73.41	30.60	7.13	21.67	73.70	63.30	.2657	2.97	7.98	27.13	6.39	21.66	74.13	47.40	.1871	4.20
			16.0	73.43	30.43	8.10	21.67	73.72	81.92	.2623	3.01	7.99	26.96	7.25	21.66	74.15	61.22	.1825	4.28
			18.0	73.45	30.32	9.09	21.67	73.74	103.0	.2600	3.04	8.00	26.84	8.13	21.66	74.16	76.89	.1793	4.34
			20.0	73.46	30.23	10.07	21.67	73.75	126.6	.2583	3.06	8.01	26.75	9.00	21.66	74.17	94.40	.1769	4.39
			30.0	73.49	30.03	15.01	21.67	73.78	261.7	.2543	3.10	8.02	26.55	13.41	21.66	74.20	209.6	.1713	4.50
24	24.42	75.68	3.0	67.79	47.96	2.23	23.94	70.29	5.96	.4018	1.42	2.19	42.48	2.03	23.78	71.48	4.62	.3697	1.79
			4.0	70.66	41.18	2.63	23.75	71.73	8.43	.3589	1.81	3.59	36.81	2.40	23.68	72.49	6.54	.3117	2.10
			5.0	71.47	38.24	3.09	23.70	72.25	11.73	.3291	2.06	4.06	34.12	2.80	23.65	72.92	9.01	.2726	2.69
			6.0	71.99	36.63	3.58	23.68	72.52	15.78	.3094	2.24	4.28	32.60	3.23	23.64	73.14	12.02	.2484	2.97
			7.0	72.23	35.65	4.08	23.67	72.68	20.57	.2959	2.36	4.40	31.65	3.67	23.64	73.28	15.57	.2284	3.18
			8.0	72.37	35.01	4.59	23.66	72.78	26.10	.2865	2.44	4.47	31.02	4.12	23.63	73.37	19.67	.2157	3.36
			10.0	72.53	34.24	5.63	23.65	72.90	39.35	.2746	2.56	4.55	30.27	5.04	23.63	73.48	29.47	.1995	3.59
			12.0	72.62	33.82	6.68	23.65	72.96	55.55	.2677	2.63	4.60	29.85	5.97	23.63	73.53	41.45	.1900	3.73
			14.0	72.67	33.56	7.74	23.65	73.00	74.69	.2634	2.67	4.62	29.59	6.91	23.62	73.57	55.60	.1841	3.83
			16.0	72.70	33.40	8.81	23.65	73.03	96.77	.2606	2.70	4.64	29.43	7.86	23.62	73.59	71.93	.1802	3.89
			18.0	72.72	33.28	9.88	23.65	73.04	121.8	.2586	2.72	4.65	29.31	8.81	23.62	73.61	90.43	.1774	3.94
			20.0	72.74	33.20	10.95	23.65	73.06	149.8	.2572	2.73	4.66	29.23	9.77	23.62	73.62	111.1	.1754	3.97
			30.0	72.78	33.00	16.34	23.64	73.08	333.8	.2537	2.77	4.68	29.03	14.56	23.62	73.64	247.1	.1708	4.06
26	26.48	75.53	3.0	64.55	53.00	2.40	26.15	68.26	6.93	.3814	1.24	1.16	45.25	2.13	25.79	70.45	5.13	.3502	1.67
			4.0	69.18	44.62	2.81	25.78	70.60	9.62	.3458	1.65	2.97	39.31	2.53	25.66	71.71	7.32	.2965	2.16
			5.0	70.60	41.45	3.31	25.70	71.29	13.45	.3193	1.88	3.56	36.57	2.98	25.63	72.22	10.19	.2606	2.61
			6.0	70.96	39.77	3.84	25.67	71.62	18.18	.3018	2.03	3.83	35.05	3.45	25.61	72.48	13.68	.2369	2.97
			7.0	71.26	38.76	4.38	25.66	71.82	23.78	.2899	2.13	3.97	34.11	3.93	25.61	72.64	17.81	.2207	3.26
			8.0	71.45	38.10	4.94	25.65	71.94	30.24	.2817	2.21	4.06	33.49	4.41	25.60	72.74	22.57	.2094	3.48
			10.0	71.66	37.33	6.06	25.64	72.08	45.74	.2713	2.31	4.17	32.75	5.41	25.60	72.86	33.98	.1951	3.80
			12.0	71.76	36.90	7.21	25.63	72.16	64.69	.2654	2.36	4.22	32.34	6.42	25.59	72.92	47.92	.1869	3.41
			14.0	71.83	36.64	8.36	25.63	72.20	87.09	.2617	2.40	4.25	32.10	7.44	25.59	72.96	64.39	.1817	3.49
			16.0	71.87	36.48	9.51	25.63	72.23	112.9	.2592	2.42	4.27	31.93	8.46	25.59	72.99	83.39	.1783	3.54
			18.0	71.90	36.36	10.67	25.63	72.25	142.2	.2575	2.44	4.29	31.81	9.49	25.59	73.01	106.0	.1759	3.58
			20.0	71.92	36.28	11.83	25.63	72.27	175.0	.2563	2.45	4.29	31.74	10.52	25.59	73.02	129.0	.1742	3.61
			30.0	71.97	36.08	17.67	25.62	72.30	390.3	.2533	2.48	4.32	31.55	15.70	25.59	73.05	287.3	.1709	3.68
28	28.54	75.40	3.0	-	-	-	-	-	-	-	-	9.88	48.34	2.24	27.84	69.20	5.69	.3326	1.55
			4.0	67.16	48.63	3.30	27.86	69.11	11.02	.3341	1.47	2.26	41.93	2.67	27.66	70.83	8.17	.2839	2.02
			5.0	68.94	45.00	3.94	27.73	70.10	15.38	.3109	1.69	3.00	39.12	3.15	27.61	71.44	11.44	.2504	2.34
			6.0	69.69	43.17	4.41	27.68	70.55	20.83	.2954	1.83	3.33	37.58	3.66	27.59	71.75	15.45	.2280	2.57
			7.0	70.13	42.10	4.89	27.66	70.80	27.30	.2850	1.92	3.52	36.64	4.18	27.58	71.93	20.19	.2144	2.73
			8.0	70.34	41.40	5.39	27.65	70.95	34.77	.2777	1.99	3.63	36.02	4.70	27.57	72.05	25.66	.2043	2.86
			10.0	70.62	40.59	6.51	27.63	71.13	52.72	.2686	2.07	3.75	35.29	5.78	27.57	72.18	38.77	.1916	3.02
			12.0	70.76	40.16	7.74	27.62	71.22	74.66	.2634	2.12	3.82	34.89	6.86	27.56	72.26	54.80	.1844	3.12
			14.0	70.84	39.89	8.98	27.62	71.28	100.6	.2602	2.15	3.86	34.64	7.96	27.56	72.30	73.73	.1798	3.19
			16.0	70.90	39.72	10.22	27.62	71.31	130.5	.2581	2.17	3.88	34.49	9.06	27.56	72.33	95.58	.1768	3.23
			18.0	70.93	39.60	11.47	27.62	71.34	164.4	.2566	2.18	3.90	34.38	10.16	27.56	72.35	120.3	.1747	3.26
			20.0	70.96	39.52	12.73	27.61	71.36	202.4	.2556	2.19	3.91	34.30	11.27	27.56	72.36	148.0	.1732	3.29
			30.0	71.02	39.32	19.01	27.61	71.40	461.8	.2530	2.22	3.94	34.11	16.82	27.56	72.40	330.1	.1696	3.34

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(c) $\epsilon_p = 75°$; $\Gamma = 10°$, $\epsilon_r = 41.15°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.62	15.81	74.55	1.60	15.80	74.59	1.59	15.80	74.62	1.57	15.80	74.66	1.55	15.80	74.69	1.54	15.79	74.72
1.85	15.78	75.01	1.82	15.77	75.04	1.80	15.77	75.07	1.78	15.77	75.10	1.76	15.77	75.13	1.74	15.77	75.16
2.09	15.76	75.24	2.06	15.76	75.27	2.04	15.76	75.30	2.01	15.76	75.32	1.98	15.76	75.35	1.95	15.76	75.38
2.36	15.76	75.37	2.32	15.76	75.40	2.28	15.76	75.42	2.25	15.76	75.45	2.21	15.76	75.48	2.18	15.76	75.51
2.63	15.76	75.45	2.58	15.76	75.48	2.54	15.76	75.51	2.50	15.75	75.53	2.46	15.75	75.56	2.42	15.75	75.59
2.91	15.76	75.50	2.86	15.75	75.53	2.81	15.75	75.56	2.76	15.75	75.59	2.71	15.75	75.62	2.66	15.75	75.65
3.49	15.75	75.57	3.42	15.75	75.60	3.36	15.75	75.63	3.30	15.75	75.66	3.23	15.75	75.69	3.17	15.75	75.72
4.08	15.75	75.61	4.00	15.75	75.64	3.93	15.75	75.67	3.85	15.75	75.70	3.77	15.75	75.73	3.69	15.75	75.76
4.69	15.75	75.64	4.60	15.75	75.67	4.50	15.75	75.69	4.41	15.75	75.72	4.32	15.75	75.75	4.23	15.75	75.78
5.30	15.75	75.65	5.20	15.75	75.68	5.09	15.75	75.71	4.98	15.75	75.74	4.88	15.75	75.77	4.77	15.75	75.80
5.92	15.75	75.66	5.80	15.75	75.69	5.68	15.75	75.72	5.56	15.75	75.75	5.44	15.75	75.78	5.32	15.75	75.81
6.54	15.75	75.67	6.41	15.75	75.70	6.27	15.75	75.73	6.14	15.75	75.76	6.01	15.75	75.79	5.87	15.75	75.82
9.69	15.75	75.69	9.48	15.75	75.72	9.28	15.75	75.75	9.07	15.75	75.78	8.87	15.75	75.81	8.67	15.75	75.84
1.71	17.79	73.92	1.69	17.78	73.97	1.67	17.78	74.02	1.65	17.78	74.07	1.63	17.77	74.11	1.61	17.77	74.16
1.97	17.75	74.47	1.94	17.75	74.51	1.92	17.74	74.56	1.89	17.74	74.60	1.87	17.74	74.64	1.84	17.74	74.68
2.26	17.73	74.73	2.22	17.73	74.77	2.19	17.73	74.81	2.15	17.73	74.85	2.12	17.73	74.89	2.09	17.73	74.93
2.56	17.73	74.88	2.51	17.73	74.92	2.47	17.73	74.96	2.43	17.73	75.00	2.39	17.72	75.04	2.35	17.72	75.08
2.87	17.73	74.98	2.82	17.72	75.02	2.77	17.72	75.05	2.72	17.72	75.09	2.67	17.72	75.13	2.62	17.72	75.17
3.19	17.72	75.04	3.13	17.72	75.08	3.07	17.72	75.12	3.02	17.72	75.16	2.96	17.72	75.19	2.91	17.72	75.23
3.85	17.72	75.11	3.78	17.72	75.15	3.70	17.72	75.19	3.63	17.72	75.23	3.56	17.72	75.27	3.49	17.72	75.31
4.53	17.72	75.16	4.44	17.72	75.20	4.35	17.72	75.24	4.26	17.72	75.28	4.17	17.72	75.31	4.08	17.72	75.35
5.21	17.72	75.18	5.11	17.72	75.22	5.00	17.72	75.26	4.90	17.72	75.30	4.79	17.72	75.34	4.69	17.72	75.38
5.91	17.72	75.20	5.78	17.72	75.24	5.66	17.72	75.28	5.54	17.72	75.32	5.42	17.72	75.36	5.30	17.72	75.40
6.60	17.72	75.21	6.47	17.72	75.25	6.33	17.72	75.29	6.19	17.72	75.33	6.06	17.72	75.37	5.92	17.72	75.41
7.30	17.72	75.22	7.15	17.72	75.26	7.00	17.72	75.30	6.85	17.72	75.34	6.70	17.72	75.38	6.55	17.72	75.42
10.84	17.72	75.24	10.61	17.72	75.28	10.38	17.72	75.32	10.15	17.72	75.36	9.92	17.72	75.40	9.69	17.72	75.44
1.80	19.77	73.23	1.78	19.77	73.30	1.76	19.76	73.37	1.73	19.75	73.44	1.71	19.75	73.51	1.69	19.74	73.57
2.10	19.72	73.90	2.07	19.72	73.96	2.04	19.71	74.01	2.01	19.71	74.07	1.98	19.71	74.12	1.95	19.71	74.18
2.42	19.71	74.20	2.38	19.70	74.26	2.34	19.70	74.31	2.30	19.70	74.36	2.27	19.70	74.42	2.23	19.69	74.47
2.76	19.70	74.37	2.71	19.70	74.43	2.67	19.69	74.48	2.62	19.69	74.53	2.57	19.69	74.58	2.53	19.69	74.63
3.11	19.69	74.48	3.06	19.69	74.53	3.00	19.69	74.58	2.94	19.69	74.63	2.89	19.69	74.68	2.84	19.69	74.73
3.47	19.69	74.55	3.41	19.69	74.60	3.34	19.69	74.65	3.28	19.69	74.70	3.22	19.69	74.75	3.15	19.69	74.80
4.21	19.69	74.63	4.13	19.69	74.68	4.05	19.69	74.74	3.97	19.69	74.79	3.88	19.69	74.84	3.80	19.69	74.89
4.97	19.69	74.68	4.87	19.69	74.73	4.77	19.69	74.78	4.67	19.69	74.83	4.57	19.69	74.89	4.47	19.68	74.93
5.73	19.69	74.71	5.61	19.69	74.76	5.50	19.69	74.81	5.38	19.69	74.86	5.26	19.68	74.91	5.15	19.68	74.96
6.51	19.69	74.72	6.37	19.69	74.78	6.23	19.69	74.83	6.10	19.69	74.88	5.97	19.68	74.93	5.83	19.68	74.98
7.28	19.69	74.74	7.13	19.69	74.79	6.97	19.69	74.84	6.82	19.69	74.90	6.67	19.68	74.95	6.52	19.68	75.00
8.06	19.69	74.75	7.89	19.69	74.80	7.72	19.69	74.85	7.55	19.68	74.90	7.38	19.68	74.96	7.21	19.68	75.01
11.99	19.69	74.77	11.73	19.69	74.82	11.47	19.69	74.88	11.21	19.68	74.93	10.96	19.68	74.98	10.71	19.68	75.03
1.90	21.76	72.48	1.87	21.75	72.58	1.84	21.74	72.68	1.82	21.73	72.78	1.79	21.73	72.87	1.77	21.72	72.95
2.23	21.70	73.28	2.19	21.69	73.36	2.16	21.69	73.44	2.12	21.68	73.51	2.09	21.68	73.59	2.06	21.67	73.66
2.59	21.68	73.63	2.54	21.67	73.71	2.50	21.67	73.78	2.46	21.67	73.85	2.41	21.66	73.92	2.37	21.66	73.99
2.97	21.67	73.83	2.91	21.66	73.90	2.86	21.66	73.97	2.81	21.66	74.04	2.76	21.66	74.10	2.70	21.66	74.17
3.36	21.66	73.95	3.29	21.66	74.02	3.23	21.66	74.09	3.17	21.66	74.15	3.11	21.65	74.22	3.05	21.65	74.28
3.76	21.66	74.02	3.68	21.66	74.09	3.61	21.66	74.16	3.54	21.65	74.23	3.47	21.65	74.30	3.40	21.65	74.36
4.58	21.66	74.12	4.48	21.66	74.19	4.39	21.65	74.26	4.30	21.65	74.32	4.21	21.65	74.39	4.12	21.65	74.45
5.41	21.66	74.17	5.30	21.65	74.24	5.19	21.65	74.31	5.08	21.65	74.37	4.97	21.65	74.44	4.86	21.65	74.50
6.25	21.66	74.20	6.12	21.65	74.27	5.99	21.65	74.34	5.86	21.65	74.41	5.73	21.65	74.47	5.60	21.65	74.53
7.10	21.65	74.22	6.95	21.65	74.29	6.80	21.65	74.36	6.65	21.65	74.43	6.50	21.65	74.49	6.36	21.65	74.56
7.96	21.65	74.24	7.78	21.65	74.31	7.62	21.65	74.37	7.45	21.65	74.44	7.28	21.65	74.51	7.12	21.65	74.57
8.81	21.65	74.25	8.62	21.65	74.32	8.43	21.65	74.38	8.25	21.65	74.45	8.06	21.65	74.52	7.88	21.65	74.58
13.12	21.65	74.27	12.83	21.65	74.34	12.55	21.65	74.41	12.27	21.65	74.47	11.99	21.65	74.54	11.71	21.65	74.60
1.99	23.76	71.64	1.96	23.74	71.79	1.93	23.73	71.93	1.90	23.72	72.05	1.88	23.71	72.18	1.85	23.70	72.29
2.36	23.67	72.61	2.32	23.67	72.72	2.28	23.66	72.82	2.24	23.65	72.92	2.20	23.65	73.02	2.17	23.64	73.11
2.75	23.65	73.02	2.71	23.64	73.12	2.66	23.64	73.22	2.61	23.63	73.31	2.56	23.63	73.40	2.52	23.63	73.48
3.17	23.64	73.24	3.11	23.63	73.34	3.05	23.63	73.43	3.00	23.63	73.52	2.94	23.62	73.61	2.88	23.62	73.69
3.60	23.63	73.38	3.53	23.63	73.47	3.46	23.63	73.56	3.39	23.62	73.65	3.33	23.62	73.73	3.26	23.62	73.82
4.04	23.63	73.47	3.96	23.63	73.56	3.88	23.62	73.65	3.80	23.62	73.73	3.72	23.62	73.82	3.65	23.62	73.90
4.94	23.62	73.57	4.83	23.62	73.66	4.73	23.62	73.75	4.63	23.62	73.84	4.53	23.62	73.92	4.44	23.62	74.00
5.85	23.62	73.63	5.72	23.62	73.72	5.60	23.62	73.81	5.48	23.62	73.89	5.36	23.62	73.97	5.24	23.61	74.06
6.77	23.62	73.66	6.62	23.62	73.75	6.48	23.62	73.84	6.34	23.62	73.93	6.20	23.62	74.01	6.06	23.61	74.09
7.69	23.62	73.68	7.53	23.62	73.77	7.36	23.62	73.86	7.20	23.62	73.95	7.04	23.61	74.03	6.88	23.61	74.11
8.62	23.62	73.70	8.44	23.62	73.79	8.25	23.62	73.88	8.07	23.62	73.96	7.88	23.61	74.05	7.70	23.61	74.13
9.56	23.62	73.71	9.35	23.62	73.80	9.14	23.62	73.89	8.94	23.62	73.97	8.73	23.61	74.06	8.53	23.61	74.14
14.24	23.62	73.74	13.93	23.62	73.83	13.62	23.62	73.91	13.31	23.62	74.00	13.00	23.61	74.08	12.70	23.61	74.16
2.09	25.77	70.68	2.06	25.74	70.90	2.02	25.72	71.09	1.99	25.70	71.27	1.96	25.69	71.43	1.93	25.68	71.59
2.49	25.65	71.87	2.44	25.64	72.02	2.40	25.63	72.16	2.36	25.62	72.29	2.32	25.62	72.42	2.28	25.61	72.54
2.92	25.62	72.36	2.87	25.61	72.49	2.81	25.61	72.61	2.76	25.60	72.73	2.71	25.60	72.85	2.66	25.59	72.96
3.38	25.61	72.61	3.31	25.60	72.74	3.25	25.60	72.86	3.18	25.59	72.97	3.12	25.59	73.08	3.06	25.59	73.19
3.85	25.60	72.76	3.77	25.60	72.89	3.69	25.59	73.00	3.62	25.59	73.11	3.54	25.59	73.22	3.47	25.58	73.33
4.32	25.60	72.86	4.23	25.59	72.98	4.15	25.59	73.10	4.06	25.59	73.21	3.98	25.58	73.32	3.89	25.58	73.42
5.30	25.59	72.98	5.18	25.59	73.10	5.07	25.59	73.21	4.96	25.58	73.32	4.86	25.58	73.43	4.75	25.58	73.53
6.28	25.59	73.04	6.15	25.59	73.16	6.01	25.58	73.27	5.88	25.58	73.38	5.75	25.58	73.49	5.62	25.58	73.59
7.28	25.59	73.08	7.12	25.59	73.20	6.96	25.58	73.31	6.81	25.58	73.42	6.66	25.58	73.52	6.50	25.58	73.62
8.28	25.59	73.11	8.10	25.59	73.22	7.92	25.58	73.34	7.74	25.58	73.44	7.57	25.58	73.55	7.39	25.58	73.65
9.28	25.59	73.13	9.08	25.58	73.24	8.88	25.58	73.35	8.68	25.58	73.46	8.48	25.58	73.56	8.28	25.58	73.66
10.29	25.59	73.14	10.06	25.58	73.25	9.84	25.58	73.36	9.62	25.58	73.47	9.40	25.58	73.58	9.18	25.58	73.68
15.35	25.59	73.17	15.01	25.58	73.28	14.67	25.58	73.39	14.34	25.58	73.50	14.01	25.58	73.60	13.68	25.58	73.70
2.20	27.80	69.56	2.15	27.76	69.87	2.12	27.72	70.14	2.08	27.70	70.39	2.04	27.68	70.61	2.01	27.66	70.82
2.62	27.64	71.05	2.57	27.62	71.25	2.52	27.61	71.44	2.48	27.60	71.61	2.43	27.59	71.77	2.39	27.58	71.93
3.09	27.60	71.62	3.03	27.59	71.80	2.97	27.58	71.96	2.91	27.57	72.12	2.86	27.56	72.26	2.80	27.56	72.40
3.58	27.58	71.92	3.51	27.57	72.08	3.44	27.56	72.24	3.37	27.56	72.39	3.30	27.55	72.53	3.23	27.55	72.66
4.09	27.57	72.10	4.01	27.56	72.25	3.92	27.56	72.40	3.84	27.55	72.55	3.76	27.55	72.68	3.68	27.55	72.81
4.61	27.57	72.21	4.51	27.56	72.36	4.41	27.55	72.51	4.32	27.55	72.65	4.23	27.55	72.79	4.13	27.54	72.91
5.65	27.56	72.34	5.53	27.55	72.49	5.41	27.55	72.64	5.29	27.55	72.77	5.17	27.54	72.91	5.06	27.54	73.03
6.71	27.56	72.41	6.57	27.55	72.56	6.42	27.55	72.70	6.28	27.55	72.84	6.14	27.54	72.97	6.00	27.54	73.10
7.78	27.56	72.46	7.61	27.55	72.60	7.44	27.55	72.75	7.27	27.54	72.88	7.11	27.54	73.01	6.95	27.54	73.14
8.86	27.55	72.48	8.66	27.55	72.63	8.47	27.55	72.77	8.28	27.54	72.91	8.09	27.54	73.04	7.90	27.54	73.16
9.94	27.55	72.50	9.72	27.55	72.65	9.50	27.55	72.79	9.28	27.54	72.93	9.07	27.54	73.06	8.86	27.54	73.18
11.02	27.55	72.52	10.77	27.55	72.66	10.53	27.55	72.80	10.29	27.54	72.94	10.05	27.54	73.07	9.82	27.54	73.19
16.45	27.55	72.55	16.08	27.55	72.70	15.71	27.55	72.84	15.35	27.54	72.97	14.99	27.54	73.10	14.64	27.54	73.22

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(c) $\epsilon_p = 75°$; $\Gamma = 10°$; $\epsilon_r = 41.15°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
30	30.60	75.29	3.0	–	–	–	–	–	–	–	–	8.13	51.94	2.36	29.96	67.54	6.36	.3160	1.41
			4.0	63.67	54.15	3.24	30.12	66.67	12.90	.3222	1.26	1.43	44.73	2.82	29.66	69.81	9.08	.2718	1.87
			5.0	66.92	49.13	3.78	29.81	68.52	17.63	.3033	1.50	2.37	41.78	3.33	29.59	70.56	12.78	.2417	2.17
			6.0	68.04	46.99	4.39	29.73	69.18	23.83	.2899	1.63	2.79	40.20	3.87	29.57	70.93	17.33	.2222	2.38
			7.0	68.61	45.78	5.02	29.69	69.52	31.23	.2807	1.72	3.01	39.25	4.43	29.55	71.14	22.72	.2091	2.52
			8.0	68.95	45.01	5.66	29.67	69.73	39.80	.2743	1.77	3.15	38.63	4.99	29.55	71.28	28.93	.2001	2.63
			10.0	69.33	44.14	6.96	29.64	69.97	60.41	.2664	1.85	3.31	37.90	6.14	29.54	71.44	43.85	.1888	2.77
			12.0	69.52	43.66	8.29	29.63	70.09	85.62	.2618	1.89	3.39	37.50	7.30	29.53	71.52	62.08	.1823	2.86
			14.0	69.63	43.38	9.62	29.63	70.16	115.4	.2590	1.92	3.43	37.25	8.47	29.53	71.57	83.62	.1783	2.91
			16.0	69.70	43.20	10.95	29.62	70.21	149.8	.2572	1.93	3.46	37.09	9.65	29.53	71.60	108.5	.1756	2.95
			18.0	69.75	43.07	12.29	29.62	70.24	188.8	.2559	1.95	3.48	36.99	10.83	29.53	71.63	136.6	.1738	2.98
			20.0	69.78	42.98	13.64	29.62	70.26	232.3	.2550	1.95	3.50	36.91	12.01	29.53	71.64	168.1	.1724	2.99
			30.0	69.86	42.77	20.37	29.61	70.31	519.0	.2527	1.97	3.53	36.72	17.94	29.53	71.68	375.3	.1693	3.04
32	32.67	75.20	3.0	–	–	–	–	–	–	–	–	5.01	56.95	2.51	32.31	64.80	7.21	.2985	1.23
			4.0	–	–	–	–	–	–	–	–	10.41	47.76	2.96	31.68	68.58	10.07	.2617	1.72
			5.0	63.20	54.99	4.10	32.11	65.77	20.73	.2956	1.26	11.63	44.60	3.51	31.59	69.53	14.21	.2343	2.00
			6.0	65.53	51.68	4.71	31.87	67.19	27.47	.2847	1.41	12.16	42.95	4.09	31.55	69.99	19.33	.2165	2.19
			7.0	66.49	50.12	5.37	31.78	67.77	35.84	.2769	1.50	12.44	41.97	4.68	31.53	70.25	25.39	.2047	2.32
			8.0	67.03	49.18	6.05	31.74	68.10	45.61	.2714	1.56	12.61	41.33	5.28	31.52	70.41	32.40	.1965	2.42
			10.0	67.59	48.14	7.45	31.70	68.45	69.15	.2644	1.63	12.81	40.58	6.51	31.51	70.59	49.21	.1864	2.54
			12.0	67.87	47.60	8.86	31.68	68.63	97.98	.2605	1.67	12.90	40.18	7.74	31.51	70.69	69.76	.1806	2.61
			14.0	68.03	47.28	10.28	31.67	68.73	132.1	.2580	1.69	12.96	39.93	8.99	31.50	70.75	94.04	.1770	2.66
			16.0	68.13	47.07	11.71	31.66	68.80	171.4	.2564	1.71	13.00	39.77	10.24	31.50	70.79	122.1	.1746	2.69
			18.0	68.20	46.93	13.15	31.66	68.84	216.0	.2553	1.72	13.02	39.66	11.49	31.50	70.82	153.8	.1730	2.71
			20.0	68.25	46.83	14.59	31.65	68.87	265.9	.2545	1.72	13.04	39.59	12.74	31.50	70.84	189.3	.1718	2.73
			30.0	68.36	46.59	21.79	31.64	68.95	593.9	.2525	1.74	13.08	39.40	19.04	31.50	70.88	422.9	.1690	2.77
34	34.74	75.12	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	9.04	51.17	3.12	33.76	66.99	11.16	.2525	1.57
			5.0	–	–	–	–	–	–	–	–	10.72	47.62	3.69	33.60	68.31	15.75	.2278	1.83
			6.0	–	–	–	–	–	–	–	–	11.41	45.85	4.30	33.55	68.89	21.45	.2116	2.01
			7.0	61.88	56.98	5.87	34.22	64.25	42.84	.2727	1.21	11.77	44.81	4.93	33.52	69.21	28.23	.2009	2.13
			8.0	63.51	54.96	6.55	34.02	65.31	53.42	.2684	1.30	11.99	44.15	5.57	33.51	69.41	36.06	.1935	2.21
			10.0	64.74	53.28	8.02	33.88	66.10	80.12	.2626	1.38	12.23	43.37	6.87	33.49	69.63	54.86	.1843	2.32
			12.0	65.27	52.49	9.52	33.83	66.45	113.1	.2592	1.42	12.35	42.96	8.18	33.49	69.75	77.84	.1791	2.38
			14.0	65.57	52.05	11.04	33.80	66.64	152.2	.2571	1.45	12.43	42.70	9.49	33.48	69.82	105.0	.1759	2.43
			16.0	65.75	51.77	12.57	33.79	66.75	197.4	.2557	1.47	12.47	42.54	10.82	33.48	69.87	136.4	.1739	2.45
			18.0	65.86	51.58	14.10	33.78	66.83	248.6	.2547	1.48	12.50	42.43	12.14	33.48	69.90	171.9	.1723	2.47
			20.0	65.95	51.45	15.64	33.77	66.88	305.8	.2540	1.48	12.52	42.35	13.47	33.48	69.92	211.6	.1713	2.49
			30.0	66.14	51.14	23.36	33.75	67.01	682.4	.2523	1.50	12.58	42.16	20.14	33.47	69.97	472.9	.1687	2.52
36	36.81	75.06	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	6.90	55.39	3.29	35.95	64.66	12.48	.2435	1.38
			5.0	–	–	–	–	–	–	–	–	9.52	50.96	3.88	35.65	66.75	17.43	.2219	1.66
			6.0	–	–	–	–	–	–	–	–	10.47	48.97	4.53	35.57	67.54	23.74	.2073	1.83
			7.0	–	–	–	–	–	–	–	–	10.95	47.84	5.19	35.53	67.96	31.25	.1976	1.94
			8.0	–	–	–	–	–	–	–	–	11.23	47.13	5.86	35.51	68.22	39.94	.1909	2.01
			10.0	–	–	–	–	–	–	–	–	11.54	46.31	7.23	35.49	68.50	60.83	.1826	2.11
			12.0	–	–	–	–	–	–	–	–	11.70	45.87	8.61	35.48	68.65	86.37	.1779	2.17
			14.0	–	–	–	–	–	–	–	–	11.79	45.60	10.00	35.47	68.73	116.6	.1750	2.20
			16.0	–	–	–	–	–	–	–	–	11.85	45.43	11.40	35.47	68.79	151.4	.1731	2.23
			18.0	–	–	–	–	–	–	–	–	11.89	45.31	12.80	35.46	68.83	190.9	.1718	2.24
			20.0	–	–	–	–	–	–	–	–	11.92	45.23	14.20	35.46	68.86	235.0	.1708	2.26
			30.0	–	–	–	–	–	–	–	–	11.98	45.03	21.23	35.46	68.92	525.4	.1685	2.28
38	38.88	75.02	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	7.71	54.95	4.09	37.80	64.54	19.38	.2164	1.47
			7.0	–	–	–	–	–	–	–	–	9.18	52.48	4.76	37.64	65.79	26.25	.2035	1.64
			8.0	–	–	–	–	–	–	–	–	9.86	51.17	5.45	37.57	66.39	34.52	.1947	1.74
			10.0	–	–	–	–	–	–	–	–	10.25	50.36	6.16	37.53	66.73	44.11	.1886	1.81
			12.0	–	–	–	–	–	–	–	–	10.67	49.45	7.60	37.50	67.11	67.19	.1811	1.90
			14.0	–	–	–	–	–	–	–	–	10.88	48.97	9.05	37.48	67.31	95.43	.1768	1.96
			16.0	–	–	–	–	–	–	–	–	11.00	48.68	10.51	37.47	67.42	128.8	.1742	1.99
			18.0	–	–	–	–	–	–	–	–	11.07	48.50	11.98	37.47	67.49	167.3	.1725	2.01
			20.0	–	–	–	–	–	–	–	–	11.13	48.37	13.45	37.46	67.54	211.0	.1713	2.03
			30.0	–	–	–	–	–	–	–	–	11.25	48.07	27.32	37.45	67.66	580.9	.1683	2.06
40	40.95	75.00	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	7.05	56.85	5.02	39.85	63.09	29.28	.1997	1.42
			7.0	–	–	–	–	–	–	–	–	8.24	55.06	5.74	39.69	64.17	38.25	.1920	1.53
			8.0	–	–	–	–	–	–	–	–	8.85	54.05	6.48	39.62	64.73	48.76	.1865	1.61
			10.0	–	–	–	–	–	–	–	–	9.47	52.95	7.98	39.56	65.30	74.15	.1797	1.70
			12.0	–	–	–	–	–	–	–	–	9.77	52.39	9.51	39.53	65.58	105.3	.1759	1.75
			14.0	–	–	–	–	–	–	–	–	9.94	52.06	11.04	39.51	65.75	142.0	.1735	1.78
			16.0	–	–	–	–	–	–	–	–	10.04	51.85	12.58	39.50	65.85	184.5	.1719	1.80
			18.0	–	–	–	–	–	–	–	–	10.12	51.70	14.13	39.49	65.92	232.6	.1708	1.81
			20.0	–	–	–	–	–	–	–	–	10.17	51.60	15.67	39.49	65.96	286.4	.1701	1.82
			30.0	–	–	–	–	–	–	–	–	10.28	51.36	23.43	39.48	66.08	640.4	.1682	1.84
42	43.02	75.00	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			7.0	–	–	–	–	–	–	–	–	4.01	61.57	6.16	42.36	59.11	44.05	.1887	1.22
			8.0	–	–	–	–	–	–	–	–	6.17	59.03	6.86	41.95	61.27	54.73	.1844	1.36
			10.0	–	–	–	–	–	–	–	–	7.47	57.27	8.41	41.75	62.53	82.40	.1784	1.46
			12.0	–	–	–	–	–	–	–	–	8.01	56.48	10.00	41.68	63.06	116.6	.1750	1.52
			14.0	–	–	–	–	–	–	–	–	8.30	56.04	11.61	41.64	63.34	157.1	.1728	1.55
			16.0	–	–	–	–	–	–	–	–	8.47	55.76	13.23	41.62	63.51	203.9	.1714	1.57
			18.0	–	–	–	–	–	–	–	–	8.59	55.57	14.85	41.61	63.63	257.0	.1704	1.58
			20.0	–	–	–	–	–	–	–	–	8.67	55.44	16.47	41.60	63.71	316.3	.1697	1.59
			30.0	–	–	–	–	–	–	–	–	8.86	55.14	24.62	41.58	63.89	706.8	.1680	1.62

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(c) $\epsilon_p = 75°$; $\Gamma = 10°$, $\epsilon_r = 41.15°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
2.31	29.86	68.15	2.26	29.80	68.63	2.21	29.74	69.04	2.17	29.70	69.39	2.13	29.67	69.70	2.09	29.64	69.98
2.76	29.63	70.11	2.70	29.61	70.39	2.65	29.59	70.64	2.60	29.57	70.87	2.55	29.56	71.08	2.50	29.55	71.27
3.26	29.58	70.81	3.19	29.56	71.04	3.13	29.55	71.25	3.07	29.54	71.45	3.00	29.53	71.64	2.94	29.52	71.81
3.79	29.55	71.16	3.71	29.54	71.37	3.63	29.53	71.57	3.56	29.52	71.76	3.48	29.52	71.93	3.41	29.51	72.10
4.33	29.54	71.36	4.24	29.53	71.56	4.15	29.52	71.76	4.06	29.52	71.94	3.97	29.51	72.11	3.89	29.51	72.27
4.89	29.54	71.49	4.78	29.53	71.69	4.67	29.52	71.88	4.57	29.51	72.05	4.47	29.51	72.22	4.37	29.51	72.38
6.01	29.53	71.64	5.87	29.52	71.84	5.74	29.51	72.02	5.61	29.51	72.19	5.49	29.51	72.36	5.36	29.50	72.51
7.14	29.53	71.72	6.98	29.52	71.91	6.82	29.51	72.09	6.67	29.51	72.27	6.52	29.50	72.43	6.37	29.50	72.58
8.28	29.52	71.77	8.10	29.52	71.96	7.91	29.51	72.14	7.73	29.51	72.31	7.56	29.50	72.47	7.38	29.50	72.63
9.43	29.52	71.80	9.22	29.52	71.99	9.01	29.51	72.17	8.80	29.51	72.34	8.60	29.50	72.50	8.40	29.50	72.66
10.58	29.52	71.83	10.34	29.51	72.01	10.11	29.51	72.19	9.87	29.51	72.36	9.65	29.50	72.52	9.42	29.50	72.67
11.74	29.52	71.84	11.47	29.51	72.03	11.21	29.51	72.20	10.95	29.51	72.37	10.69	29.50	72.53	10.44	29.50	72.69
17.53	29.52	71.88	17.13	29.51	72.06	16.73	29.51	72.24	16.34	29.50	72.41	15.96	29.50	72.57	15.58	29.50	72.72
2.43	32.03	66.21	2.36	31.89	67.07	2.31	31.79	67.71	2.26	31.73	68.22	2.21	31.68	68.66	2.17	31.64	69.03
2.89	31.64	69.02	2.83	31.60	69.40	2.77	31.57	69.74	2.72	31.55	70.04	2.66	31.53	70.32	2.61	31.51	70.57
3.43	31.56	69.88	3.36	31.54	70.19	3.29	31.52	70.47	3.22	31.51	70.72	3.15	31.49	70.96	3.08	31.48	71.19
4.00	31.53	70.30	3.91	31.51	70.58	3.82	31.50	70.84	3.74	31.49	71.07	3.66	31.48	71.30	3.58	31.47	71.51
4.58	31.52	70.54	4.47	31.50	70.80	4.37	31.49	71.05	4.28	31.48	71.28	4.18	31.47	71.49	4.09	31.47	71.70
5.16	31.51	70.69	5.05	31.50	70.95	4.93	31.48	71.19	4.82	31.48	71.41	4.72	31.47	71.62	4.61	31.47	71.82
6.36	31.50	70.86	6.21	31.49	71.11	6.07	31.48	71.35	5.93	31.47	71.56	5.80	31.47	71.77	5.66	31.46	71.96
7.56	31.49	70.96	7.39	31.48	71.20	7.22	31.48	71.43	7.05	31.47	71.65	6.89	31.47	71.85	6.73	31.46	72.04
8.78	31.49	71.01	8.58	31.48	71.26	8.38	31.47	71.48	8.18	31.47	71.70	7.99	31.46	71.90	7.81	31.46	72.09
10.00	31.49	71.05	9.77	31.48	71.29	9.54	31.47	71.52	9.32	31.47	71.73	9.10	31.46	71.93	8.89	31.46	72.12
11.22	31.49	71.08	10.96	31.48	71.32	10.71	31.47	71.54	10.46	31.47	71.75	10.21	31.46	71.95	9.97	31.46	72.14
12.45	31.49	71.09	12.16	31.48	71.33	11.88	31.47	71.56	11.60	31.47	71.77	11.33	31.46	71.97	11.06	31.46	72.15
18.60	31.49	71.14	18.16	31.48	71.37	17.74	31.47	71.59	17.32	31.47	71.80	16.91	31.46	72.00	16.51	31.46	72.19
2.63	34.91	61.34	2.49	34.11	64.77	2.41	33.90	65.97	2.35	33.78	66.80	2.30	33.70	67.44	2.25	33.64	67.96
3.04	33.67	67.68	2.96	33.61	68.24	2.90	33.57	68.71	2.83	33.53	69.12	2.77	33.50	69.48	2.72	33.48	69.80
3.60	33.56	68.80	3.52	33.52	69.22	3.44	33.50	69.59	3.37	33.48	69.92	3.29	33.46	70.23	3.22	33.45	70.51
4.20	33.52	69.31	4.11	33.49	69.69	4.01	33.47	70.02	3.92	33.46	70.33	3.84	33.44	70.61	3.75	33.43	70.87
4.82	33.50	69.60	4.71	33.47	69.95	4.60	33.46	70.27	4.49	33.45	70.56	4.39	33.44	70.83	4.29	33.43	71.08
5.44	33.48	69.78	5.31	33.47	70.12	5.19	33.45	70.43	5.07	33.44	70.71	4.96	33.43	70.97	4.84	33.42	71.22
6.70	33.47	69.99	6.55	33.46	70.31	6.39	33.44	70.61	6.25	33.43	70.88	6.10	33.43	71.14	5.96	33.42	71.38
7.98	33.47	70.10	7.79	33.45	70.42	7.61	33.44	70.71	7.43	33.43	70.98	7.26	33.42	71.23	7.09	33.42	71.46
9.27	33.46	70.17	9.05	33.45	70.48	8.83	33.44	70.77	8.63	33.43	71.03	8.42	33.42	71.28	8.23	33.42	71.52
10.56	33.46	70.21	10.31	33.45	70.52	10.06	33.44	70.80	9.83	33.43	71.07	9.60	33.42	71.32	9.37	33.42	71.55
11.85	33.46	70.24	11.57	33.45	70.55	11.30	33.44	70.83	11.03	33.43	71.09	10.77	33.42	71.34	10.51	33.42	71.57
13.15	33.46	70.26	12.84	33.45	70.57	12.53	33.43	70.85	12.24	33.43	71.11	11.94	33.42	71.36	11.66	33.42	71.59
19.65	33.46	70.31	19.18	33.44	70.61	18.73	33.43	70.89	18.28	33.43	71.15	17.84	33.42	71.40	17.42	33.42	71.63
-	-	-	-	-	-	2.54	36.20	63.30	2.45	35.91	64.92	2.39	35.76	65.94	2.33	35.66	66.71
3.19	35.76	65.94	3.10	35.65	66.81	3.02	35.57	67.49	2.95	35.52	68.06	2.89	35.48	68.56	2.82	35.45	68.96
3.78	35.57	67.49	3.69	35.52	68.09	3.60	35.48	68.59	3.52	35.45	69.03	3.44	35.43	69.42	3.36	35.41	69.77
4.41	35.51	68.15	4.30	35.47	68.66	4.20	35.44	69.11	4.10	35.42	69.50	4.01	35.41	69.86	3.92	35.39	70.18
5.06	35.48	68.51	4.94	35.45	68.98	4.82	35.43	69.40	4.71	35.41	69.77	4.60	35.40	70.11	4.49	35.39	70.42
5.72	35.47	68.74	5.58	35.44	69.19	5.44	35.42	69.58	5.32	35.40	69.94	5.19	35.39	70.27	5.07	35.38	70.58
7.05	35.45	68.99	6.88	35.43	69.41	6.71	35.41	69.80	6.55	35.40	70.14	6.40	35.39	70.46	6.25	35.38	70.75
8.40	35.44	69.12	8.19	35.42	69.54	7.99	35.40	69.91	7.80	35.39	70.25	7.62	35.38	70.56	7.44	35.38	70.85
9.79	35.44	69.20	9.51	35.42	69.61	9.28	35.40	69.98	9.06	35.39	70.31	8.85	35.38	70.62	8.64	35.38	70.91
11.11	35.44	69.25	10.84	35.42	69.65	10.58	35.40	70.02	10.33	35.39	70.35	10.08	35.38	70.66	9.84	35.37	70.94
12.48	35.43	69.28	12.17	35.41	69.69	11.88	35.40	70.05	11.59	35.39	70.38	11.31	35.38	70.68	11.04	35.37	70.97
13.84	35.43	69.31	13.50	35.41	69.71	13.18	35.40	70.07	12.86	35.39	70.40	12.55	35.38	70.70	12.25	35.37	70.99
20.69	35.43	69.37	20.18	35.41	69.76	19.69	35.40	70.12	19.22	35.39	70.45	18.76	35.38	70.75	18.30	35.37	71.03
-	-	-	-	-	-	-	-	-	2.58	38.27	61.90	2.49	37.89	63.97	2.42	37.71	65.18
3.36	38.02	63.22	3.24	37.75	64.93	3.15	37.61	66.00	3.07	37.53	66.81	3.00	37.47	67.46	2.93	37.43	68.02
3.96	37.63	65.81	3.85	37.54	66.71	3.75	37.47	67.42	3.66	37.43	68.01	3.58	37.40	68.52	3.50	37.37	68.97
4.62	37.53	66.73	4.50	37.47	67.46	4.39	37.42	68.06	4.28	37.39	68.58	4.18	37.37	69.03	4.09	37.35	69.44
5.30	37.49	67.20	5.16	37.44	67.86	5.04	37.40	68.41	4.92	37.38	68.90	4.80	37.36	69.32	4.69	37.34	69.71
5.99	37.47	67.49	5.84	37.42	68.11	5.69	37.39	68.63	5.56	37.37	69.09	5.42	37.35	69.51	5.30	37.34	69.88
7.39	37.44	67.81	7.21	37.40	68.38	7.03	37.38	68.88	6.86	37.36	69.32	6.69	37.34	69.72	6.53	37.33	70.08
8.81	37.43	67.97	8.59	37.39	68.53	8.37	37.37	69.01	8.17	37.35	69.44	7.97	37.34	69.83	7.78	37.33	70.19
10.24	37.42	68.07	9.97	37.39	68.61	9.73	37.37	69.09	9.49	37.35	69.52	9.26	37.34	69.90	9.04	37.33	70.25
11.66	37.42	68.13	11.37	37.39	68.67	11.08	37.36	69.14	10.81	37.35	69.56	10.55	37.34	69.94	10.30	37.33	70.29
13.10	37.42	68.17	12.76	37.39	68.71	12.45	37.36	69.18	12.14	37.35	69.59	11.85	37.34	69.97	11.56	37.33	70.32
14.53	37.41	68.20	14.16	37.38	68.73	13.81	37.36	69.20	13.47	37.35	69.62	13.14	37.34	69.99	12.82	37.33	70.34
21.73	37.41	68.27	21.17	37.38	68.80	20.65	37.36	69.26	20.14	37.34	69.67	19.65	37.33	70.04	19.17	37.33	70.39
-	-	-	-	-	-	-	-	-	-	-	-	2.60	40.26	60.79	2.51	39.84	63.19
-	-	-	3.42	40.05	61.88	3.29	39.71	64.02	3.19	39.56	65.28	3.11	39.47	66.21	3.04	39.41	66.95
4.16	39.81	63.37	4.03	39.60	64.95	3.91	39.48	66.02	3.81	39.41	66.84	3.72	39.37	67.51	3.63	39.33	68.08
4.84	39.61	64.85	4.70	39.49	65.98	4.57	39.41	66.89	4.46	39.37	67.52	4.35	39.33	68.11	4.25	39.31	68.63
5.55	39.53	65.54	5.39	39.44	66.51	5.25	39.38	67.27	5.12	39.34	67.90	5.00	39.32	68.45	4.88	39.30	68.93
6.28	39.49	65.93	6.10	39.42	66.82	5.94	39.37	67.54	5.79	39.33	68.14	5.65	39.31	68.66	5.52	39.29	69.13
7.74	39.45	66.36	7.53	39.39	67.17	7.34	39.35	67.84	7.15	39.32	68.41	6.98	39.30	68.91	6.81	39.29	69.35
9.23	39.44	66.58	8.98	39.38	67.35	8.74	39.34	67.99	8.53	39.31	68.55	8.32	39.30	69.04	8.11	39.28	69.47
10.72	39.42	66.70	10.43	39.37	67.46	10.16	39.33	68.09	9.91	39.31	68.63	9.66	39.29	69.11	9.43	39.28	69.54
12.22	39.42	66.78	11.89	39.37	67.53	11.58	39.33	68.15	11.29	39.31	68.69	11.01	39.29	69.16	10.74	39.28	69.59
13.72	39.41	66.84	13.35	39.36	67.57	13.01	39.33	68.19	12.68	39.31	68.72	12.37	39.29	69.19	12.06	39.28	69.62
15.22	39.41	66.88	14.81	39.36	67.61	14.43	39.33	68.22	14.07	39.31	68.75	13.72	39.29	69.22	13.39	39.28	69.64
22.76	39.40	66.97	22.15	39.36	67.68	21.58	39.32	68.29	21.04	39.30	68.81	20.52	39.29	69.28	20.01	39.28	69.70
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.61	42.16	60.11
-	-	-	-	-	-	3.45	42.03	60.82	3.32	41.65	63.28	3.22	41.49	64.69	3.14	41.39	65.72
-	-	-	4.22	41.78	62.38	4.07	41.54	64.22	3.96	41.42	65.42	3.86	41.35	66.34	3.76	41.30	67.09
5.10	41.85	61.92	4.91	41.56	64.04	4.76	41.43	65.33	4.63	41.35	66.30	4.52	41.30	67.07	4.40	41.27	67.72
5.82	41.66	63.19	5.63	41.48	64.80	5.47	41.38	65.90	5.32	41.32	66.76	5.19	41.28	67.47	5.06	41.25	68.08
6.57	41.58	63.83	6.37	41.44	65.23	6.19	41.35	66.24	6.02	41.30	67.05	5.87	41.27	67.72	5.73	41.25	68.30
8.10	41.51	64.47	7.86	41.39	65.69	7.64	41.33	66.62	7.44	41.28	67.37	7.26	41.26	68.00	7.08	41.24	68.56
9.65	41.48	64.78	9.37	41.38	65.93	9.11	41.31	66.81	8.88	41.28	67.54	8.65	41.25	68.15	8.44	41.23	68.69
11.21	41.46	64.96	10.88	41.37	66.07	10.59	41.31	66.93	10.31	41.27	67.63	10.06	41.25	68.24	9.81	41.23	68.77
12.78	41.45	65.07	12.41	41.36	66.15	12.07	41.30	67.00	11.76	41.27	67.70	11.46	41.25	68.30	11.18	41.23	68.83
14.35	41.44	65.15	13.93	41.35	66.21	13.56	41.30	67.05	13.21	41.27	67.74	12.87	41.24	68.34	12.55	41.23	68.86
15.92	41.44	65.20	15.46	41.35	66.26	15.04	41.30	67.08	14.65	41.27	67.77	14.28	41.24	68.36	13.93	41.23	68.89
23.81	41.43	65.33	23.12	41.34	66.35	22.50	41.29	67.17	21.92	41.26	67.84	21.36	41.24	68.43	20.83	41.23	68.95

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(d) $\epsilon_p = 60°$; $\Gamma = 0°$; $\epsilon_r = 0°$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$							$\gamma_e = \gamma_\infty = 1.40$						
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	2.31	60.02	3.0	59.99	21.07	1.08	2.04	59.59	1.20	.8951	2.85	60.01	20.90	1.07	2.04	59.59	1.17	.8945	2.90
			4.0	60.00	15.99	1.10	2.02	59.71	1.27	.8680	3.78	60.01	15.83	1.09	2.02	59.71	1.22	.8669	3.85
			5.0	60.01	13.02	1.13	2.01	59.77	1.34	.8412	4.68	60.01	12.86	1.11	2.01	59.78	1.28	.8394	4.79
			6.0	60.01	11.07	1.15	2.01	59.81	1.41	.8152	5.56	60.02	10.91	1.14	2.01	59.82	1.34	.8126	5.72
			7.0	60.01	9.69	1.18	2.01	59.84	1.49	.7902	6.42	60.02	9.53	1.16	2.01	59.85	1.40	.7868	6.63
			8.0	60.01	8.67	1.21	2.00	59.86	1.57	.7663	7.27	60.02	8.50	1.18	2.00	59.87	1.47	.7620	7.53
			10.0	60.01	7.25	1.26	2.00	59.89	1.74	.7218	8.89	60.02	7.08	1.23	2.00	59.90	1.61	.7153	9.30
			12.0	60.01	6.31	1.32	2.00	59.91	1.93	.6813	10.44	60.02	6.14	1.28	2.00	59.92	1.76	.6726	11.01
			14.0	60.01	5.65	1.38	2.00	59.93	2.13	.6448	11.92	60.02	5.48	1.34	2.00	59.93	1.92	.6334	12.67
			16.0	60.01	5.17	1.44	2.00	59.94	2.35	.6117	13.32	60.02	4.99	1.39	2.00	59.94	2.09	.5977	14.28
			18.0	60.01	4.79	1.50	2.00	59.94	2.58	.5818	14.65	60.02	4.61	1.45	2.00	59.95	2.27	.5651	15.85
			20.0	60.01	4.50	1.57	2.00	59.95	2.83	.5548	15.92	60.02	4.31	1.50	2.00	59.95	2.47	.5353	17.36
			30.0	60.01	3.67	1.92	2.00	59.97	4.36	.4542	21.29	60.02	3.46	1.81	2.00	59.97	3.65	.4212	24.15
4	4.62	60.08	3.0	59.98	22.79	1.16	4.08	59.17	1.44	.8058	2.71	60.03	22.42	1.14	4.08	59.19	1.36	.8034	2.79
			4.0	60.01	17.64	1.21	4.04	59.42	1.59	.7607	3.57	60.05	17.29	1.19	4.04	59.44	1.48	.7565	3.71
			5.0	60.03	14.67	1.27	4.02	59.55	1.76	.7180	4.38	60.06	14.32	1.24	4.02	59.57	1.62	.7117	4.59
			6.0	60.03	12.74	1.32	4.02	59.64	1.94	.6787	5.16	60.06	12.38	1.29	4.01	59.65	1.76	.6700	5.45
			7.0	60.04	11.39	1.38	4.01	59.70	2.14	.6428	5.90	60.06	11.03	1.34	4.01	59.71	1.92	.6316	6.28
			8.0	60.04	10.40	1.44	4.01	59.74	2.36	.6102	6.60	60.06	10.03	1.39	4.01	59.75	2.10	.5963	7.09
			10.0	60.04	9.05	1.57	4.01	59.79	2.84	.5540	7.90	60.07	8.66	1.51	4.00	59.81	2.48	.5345	8.62
			12.0	60.04	8.18	1.71	4.00	59.83	3.40	.5079	9.07	60.07	7.78	1.62	4.00	59.85	2.91	.4829	10.06
			14.0	60.04	7.59	1.85	4.00	59.85	4.02	.4702	10.11	60.07	7.17	1.75	4.00	59.87	3.39	.4398	11.39
			16.0	60.04	7.16	1.99	4.00	59.87	4.72	.4393	11.04	60.07	6.73	1.87	4.00	59.89	3.93	.4038	12.62
			18.0	60.04	6.84	2.15	4.00	59.88	5.51	.4137	11.86	60.07	6.40	2.01	4.00	59.90	4.53	.3736	13.76
			20.0	60.04	6.60	2.30	4.00	59.89	6.37	.3926	12.58	60.07	6.15	2.14	4.00	59.91	5.19	.3482	14.80
			30.0	60.04	5.96	3.12	4.00	59.92	11.90	.3280	15.11	60.07	5.47	2.86	4.00	59.94	9.39	.2684	18.82
6	6.92	60.18	3.0	59.94	24.64	1.25	6.13	58.75	1.71	.7299	2.58	60.06	24.03	1.22	6.12	58.80	1.57	.7249	2.69
			4.0	60.03	19.44	1.33	6.06	59.14	1.97	.6738	3.37	60.11	18.86	1.29	6.06	59.18	1.78	.6653	3.56
			5.0	60.06	16.48	1.42	6.04	59.34	2.27	.6231	4.10	60.13	15.90	1.37	6.03	59.38	2.02	.6107	4.39
			6.0	60.07	14.59	1.51	6.02	59.46	2.61	.5788	4.78	60.14	14.00	1.45	6.02	59.50	2.29	.5622	5.18
			7.0	60.08	13.29	1.61	6.02	59.55	2.99	.5403	5.41	60.14	12.68	1.54	6.01	59.59	2.59	.5195	5.93
			8.0	60.08	12.34	1.71	6.01	59.61	3.41	.5070	5.98	60.14	11.72	1.63	6.01	59.65	2.92	.4821	6.64
			10.0	60.09	11.09	1.92	6.01	59.69	4.37	.4535	6.99	60.15	10.44	1.81	6.01	59.73	3.66	.4206	7.95
			12.0	60.09	10.31	2.15	6.01	59.74	5.51	.4135	7.84	60.15	9.63	2.01	6.00	59.78	4.53	.3735	9.11
			14.0	60.09	9.79	2.38	6.00	59.77	6.83	.3832	8.54	60.15	9.09	2.21	6.00	59.81	5.54	.3370	10.13
			16.0	60.09	9.42	2.62	6.00	59.79	8.33	.3601	9.13	60.15	8.71	2.42	6.00	59.83	6.68	.3086	11.03
			18.0	60.09	9.16	2.97	6.00	59.81	10.02	.3421	9.61	60.15	8.43	2.64	6.00	59.85	7.96	.2863	11.80
			20.0	60.10	8.97	3.12	6.00	59.82	11.90	.3280	10.01	60.15	8.22	2.86	6.00	59.86	9.38	.2685	12.48
			30.0	60.10	8.47	4.42	6.00	59.85	24.16	.2893	11.23	60.15	7.69	4.01	6.00	59.90	18.63	.2184	14.74
8	9.22	60.32	3.0	59.88	26.62	1.34	8.18	58.30	2.01	.6654	2.44	60.10	25.75	1.30	8.16	58.40	1.81	.6573	2.60
			4.0	60.04	21.37	1.46	8.08	58.84	2.41	.6035	3.18	60.19	20.53	1.40	8.07	58.92	2.13	.5900	3.42
			5.0	60.09	18.45	1.58	8.05	59.11	2.88	.5501	3.83	60.23	17.61	1.51	8.04	59.19	2.50	.5310	4.19
			6.0	60.12	16.61	1.72	8.03	59.28	3.43	.5056	4.42	60.24	15.75	1.63	8.03	59.35	2.93	.4809	4.91
			7.0	60.13	15.36	1.85	8.02	59.38	4.05	.4688	4.94	60.25	14.48	1.75	8.02	59.46	3.41	.4386	5.58
			8.0	60.14	14.47	2.00	8.02	59.46	4.75	.4383	5.40	60.25	13.57	1.88	8.01	59.54	3.94	.4031	6.20
			10.0	60.15	13.31	2.30	8.01	59.56	6.38	.3922	6.18	60.26	12.38	2.14	8.01	59.64	5.19	.3481	7.29
			12.0	60.16	12.62	2.62	8.01	59.62	8.34	.3600	6.78	60.26	11.65	2.42	8.01	59.70	6.68	.3087	8.20
			14.0	60.16	12.16	2.95	8.01	59.66	10.63	.3370	7.25	60.26	11.17	2.71	8.00	59.76	8.41	.2800	8.96
			16.0	60.16	11.85	3.29	8.01	59.68	13.26	.3203	7.62	60.26	10.84	3.01	8.00	59.77	10.40	.2587	9.59
			18.0	60.16	11.63	3.63	8.01	59.70	16.22	.3078	7.91	60.27	10.60	3.31	8.00	59.79	12.63	.2426	10.12
			20.0	60.17	11.47	3.98	8.01	59.72	19.53	.2983	8.14	60.27	10.43	3.62	8.00	59.80	15.13	.2302	10.55
			30.0	60.17	11.07	5.76	8.00	59.75	41.23	.2735	8.78	60.27	9.99	5.21	8.00	59.84	31.46	.1974	11.86
10	11.51	60.50	3.0	59.78	28.76	1.44	10.23	57.82	2.35	.6106	2.31	60.14	27.56	1.39	10.20	57.99	2.08	.5991	2.50
			4.0	60.04	23.45	1.59	10.11	58.52	2.92	.5467	2.99	60.30	22.32	1.52	10.09	58.65	2.52	.5279	3.28
			5.0	60.13	20.56	1.76	10.06	58.86	3.61	.4939	3.57	60.35	19.42	1.66	10.05	58.99	3.06	.4681	3.99
			6.0	60.18	18.77	1.93	10.04	59.07	4.41	.4518	4.07	60.37	17.62	1.82	10.03	59.20	3.68	.4194	4.64
			7.0	60.20	17.59	2.11	10.03	59.20	5.34	.4184	4.50	60.38	16.40	1.98	10.02	59.33	4.39	.3799	5.23
			8.0	60.21	16.75	2.31	10.02	59.29	6.40	.3918	4.87	60.39	15.55	2.14	10.02	59.42	5.20	.3480	5.76
			10.0	60.23	15.69	2.70	10.02	59.41	8.89	.3534	5.46	60.40	14.44	2.49	10.01	59.54	7.09	.3007	6.65
			12.0	60.24	15.06	3.12	10.01	59.52	15.44	.3106	6.20	60.41	13.78	2.86	10.01	59.61	9.36	.2687	7.36
			14.0	60.24	14.66	3.54	10.01	59.52	19.52	.2983	6.44	60.41	13.07	3.62	10.00	59.68	15.10	.2304	8.37
			16.0	60.25	14.39	3.98	10.01	59.54	24.13	.2894	6.62	60.41	13.35	3.23	10.01	59.65	12.03	.2464	7.93
			18.0	60.25	14.20	4.41	10.01	59.57	29.27	.2827	6.76	60.41	12.86	4.01	10.00	59.71	18.56	.2186	8.72
			20.0	60.25	14.06	4.86	10.01	59.58	63.07	.2657	7.13	60.41	12.71	4.40	10.00	59.72	22.43	.2097	9.01
			30.0	60.26	13.72	7.11	10.01	59.62				60.41	12.35	6.41	10.00	59.76	47.83	.1869	9.81
12	13.79	60.72	3.0	59.64	31.05	1.55	12.30	57.28	2.74	.5638	2.18	60.18	29.49	1.48	12.24	57.55	2.38	.5488	2.39
			4.0	60.04	25.66	1.73	12.14	58.16	3.50	.5006	2.80	60.42	24.20	1.64	12.11	58.38	2.97	.4767	3.14
			5.0	60.17	22.81	1.94	12.08	58.58	4.45	.4504	3.31	60.49	21.34	1.82	12.06	58.79	3.70	.4183	3.79
			6.0	60.24	21.07	2.16	12.06	58.83	5.57	.4119	3.74	60.53	19.59	2.01	12.04	59.03	4.56	.3725	4.38
			7.0	60.27	19.94	2.39	12.04	58.98	6.88	.3824	4.10	60.55	18.43	2.21	12.03	59.18	5.55	.3368	4.89
			8.0	60.29	19.15	2.62	12.03	59.09	8.37	.3596	4.39	60.56	17.62	2.42	12.02	59.29	6.68	.3087	5.34
			10.0	60.32	18.17	3.12	12.03	59.22	11.91	.3280	4.83	60.57	16.59	2.86	12.01	59.42	9.35	.2688	6.06
			12.0	60.33	17.60	3.53	12.02	59.29	16.21	.3078	5.14	60.58	15.99	3.31	12.01	59.50	12.59	.2429	6.61
			14.0	60.34	17.24	4.15	12.02	59.34	21.28	.2945	5.36	60.58	15.61	3.77	12.01	59.55	16.39	.2254	7.03
			16.0	60.34	17.00	4.68	12.02	59.37	27.12	.2852	5.52	60.59	15.36	4.24	12.01	59.58	20.78	.2131	7.34
			18.0	60.35	16.83	5.21	12.02	59.39	33.73	.2785	5.64	60.59	15.18	4.71	12.01	59.60	25.74	.2042	7.59
			20.0	60.35	16.71	5.75	12.01	59.41	41.11	.2736	5.73	60.59	15.05	5.19	12.01	59.62	31.28	.1976	7.78
			30.0	60.35	16.42	8.98	12.01	59.45	89.66	.2614	5.96	60.59	14.73	7.63	12.00	59.66	67.71	.1810	8.30
14	16.06	60.98	3.0	59.41	33.53	1.66	14.39	56.65	3.18	.5238	2.05	60.21	31.52	1.57	14.30	57.07	2.70	.5055	2.29
			4.0	60.00	28.02	1.88	14.18	57.75	4.17	.4631	2.62	60.55	26.18	1.76	14.13	58.08	3.47	.4343	2.99
			5.0	60.20	25.18	2.13	14.11	58.26	5.41	.4164	3.07	60.66	23.36	1.98	14.07	58.56	4.42	.3787	3.60
			6.0	60.29	23.50	2.39	14.07	58.54	6.91	.3818	3.43	60.71	21.66	2.21	14.05	58.84	5.56	.3366	4.11
			7.0	60.34	22.41	2.67	14.06	58.72	8.66	.3561	3.72	60.74	20.55	2.46	14.03	59.02	6.88	.3047	4.56
			8.0	60.37	21.67	2.95	14.05	58.84	10.66	.3368	3.96	60.75	19.78	2.71	14.03	59.14	8.39	.2803	4.93
			10.0	60.41	20.75	3.54	14.04	58.99	15.45	.3106	4.30	60.77	18.83	3.23	14.02	59.29	11.98	.2467	5.52
			12.0	60.43	20.22	4.15	14.03	59.07	21.27	.2945	4.53	60.78	18.27	3.76	14.01	59.37	16.35	.2255	5.95
			14.0	60.44	19.89	4.76	14.03	59.12	28.14	.2839	4.68	60.79	17.93	4.31	14.01	59.42	21.50	.2115	6.26
			16.0	60.44	19.68	5.39	14.03	59.15	36.06	.2767	4.79	60.79	17.70	4.86	14.01	59.46	27.43	.2019	6.49
			18.0	60.45	19.53	6.02	14.02	59.18	45.03	.2716	4.87	60.79	17.54	5.42	14.01	59.48	34.15	.1950	6.66
			20.0	60.45	19.42	6.65	14.02	59.19	55.05	.2679	4.93	60.79	17.42	5.99	14.01	59.50	41.65	.1899	6.80
			30.0	60.46	19.15	9.84	14.02	59.23	121.0	.2587	5.09	60.80	17.14	8.84	14.01	59.54	91.00	.1773	7.15

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(d) $\epsilon_p = 60°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.07	2.04	59.59	1.07	2.04	59.59	1.07	2.04	59.59	1.06	2.04	59.59	1.06	2.04	59.59	1.06	2.04	59.60
1.09	2.02	59.71	1.09	2.02	59.71	1.08	2.02	59.71	1.08	2.02	59.71	1.08	2.02	59.71	1.08	2.02	59.71
1.11	2.01	59.78	1.11	2.01	59.78	1.11	2.01	59.78	1.10	2.01	59.78	1.10	2.01	59.78	1.10	2.01	59.78
1.13	2.01	59.82	1.13	2.01	59.82	1.13	2.01	59.82	1.12	2.01	59.82	1.12	2.01	59.82	1.12	2.01	59.82
1.16	2.01	59.85	1.15	2.01	59.85	1.15	2.01	59.85	1.15	2.01	59.85	1.14	2.01	59.85	1.14	2.01	59.85
1.18	2.00	59.87	1.17	2.00	59.87	1.17	2.00	59.87	1.17	2.00	59.87	1.16	2.00	59.87	1.16	2.00	59.87
1.23	2.00	59.90	1.22	2.00	59.90	1.22	2.00	59.90	1.21	2.00	59.90	1.21	2.00	59.90	1.20	2.00	59.90
1.28	2.00	59.92	1.27	2.00	59.92	1.26	2.00	59.92	1.26	2.00	59.92	1.25	2.00	59.92	1.24	2.00	59.92
1.33	2.00	59.93	1.32	2.00	59.93	1.31	2.00	59.93	1.30	2.00	59.93	1.30	2.00	59.93	1.29	2.00	59.93
1.38	2.00	59.94	1.37	2.00	59.94	1.36	2.00	59.94	1.35	2.00	59.94	1.34	2.00	59.94	1.34	2.00	59.94
1.44	2.00	59.95	1.43	2.00	59.95	1.41	2.00	59.95	1.40	2.00	59.95	1.39	2.00	59.95	1.38	2.00	59.95
1.49	2.00	59.95	1.48	2.00	59.95	1.47	2.00	59.96	1.46	2.00	59.96	1.44	2.00	59.96	1.43	2.00	59.96
1.79	2.00	59.97	1.77	2.00	59.97	1.75	2.00	59.97	1.73	2.00	59.97	1.71	2.00	59.97	1.69	2.00	59.98
1.14	4.08	59.20	1.14	4.08	59.20	1.13	4.08	59.20	1.13	4.08	59.21	1.13	4.08	59.21	1.12	4.08	59.21
1.18	4.04	59.44	1.18	4.04	59.44	1.18	4.04	59.45	1.17	4.04	59.45	1.17	4.04	59.45	1.16	4.04	59.45
1.23	4.02	59.57	1.23	4.02	59.58	1.22	4.02	59.58	1.21	4.02	59.58	1.21	4.02	59.58	1.20	4.02	59.59
1.28	4.01	59.66	1.27	4.01	59.66	1.27	4.01	59.66	1.26	4.01	59.66	1.25	4.01	59.67	1.25	4.01	59.67
1.33	4.01	59.71	1.32	4.01	59.72	1.32	4.01	59.72	1.31	4.01	59.72	1.30	4.01	59.73	1.29	4.01	59.73
1.38	4.01	59.76	1.37	4.01	59.76	1.36	4.01	59.76	1.36	4.01	59.76	1.35	4.01	59.77	1.34	4.01	59.77
1.49	4.00	59.81	1.48	4.00	59.82	1.47	4.00	59.82	1.46	4.00	59.82	1.44	4.00	59.82	1.43	4.00	59.83
1.61	4.00	59.85	1.59	4.00	59.85	1.58	4.00	59.86	1.56	4.00	59.86	1.55	4.00	59.86	1.53	4.00	59.86
1.73	4.00	59.87	1.71	4.00	59.88	1.69	4.00	59.88	1.67	4.00	59.88	1.66	4.00	59.89	1.64	4.00	59.89
1.85	4.00	59.89	1.83	4.00	59.90	1.81	4.00	59.90	1.79	4.00	59.90	1.77	4.00	59.91	1.75	4.00	59.91
1.98	4.00	59.91	1.96	4.00	59.91	1.93	4.00	59.91	1.91	4.00	59.92	1.88	4.00	59.92	1.86	4.00	59.92
2.11	4.00	59.92	2.09	4.00	59.92	2.06	4.00	59.92	2.03	4.00	59.93	2.00	4.00	59.93	1.97	4.00	59.93
2.82	4.00	59.94	2.77	4.00	59.95	2.72	4.00	59.95	2.68	4.00	59.95	2.63	4.00	59.96	2.58	4.00	59.96
1.22	6.12	58.81	1.21	6.12	58.81	1.21	6.11	58.82	1.20	6.11	58.83	1.20	6.11	58.84	1.19	6.11	58.85
1.29	6.06	59.18	1.28	6.05	59.19	1.27	6.05	59.20	1.27	6.05	59.20	1.26	6.05	59.21	1.25	6.05	59.22
1.36	6.03	59.38	1.35	6.03	59.39	1.34	6.03	59.40	1.33	6.03	59.40	1.33	6.03	59.41	1.32	6.03	59.42
1.44	6.02	59.51	1.43	6.02	59.51	1.42	6.02	59.52	1.41	6.02	59.53	1.40	6.02	59.54	1.39	6.02	59.54
1.52	6.01	59.59	1.51	6.01	59.60	1.50	6.01	59.61	1.48	6.01	59.61	1.47	6.01	59.62	1.46	6.01	59.63
1.61	6.01	59.65	1.59	6.01	59.66	1.58	6.01	59.67	1.56	6.01	59.67	1.55	6.01	59.68	1.53	6.01	59.69
1.79	6.01	59.73	1.77	6.01	59.74	1.75	6.01	59.75	1.73	6.00	59.76	1.71	6.00	59.76	1.69	6.00	59.77
1.98	6.00	59.79	1.96	6.00	59.79	1.93	6.00	59.80	1.91	6.00	59.81	1.88	6.00	59.82	1.86	6.00	59.82
2.18	6.00	59.82	2.15	6.00	59.83	2.12	6.00	59.83	2.09	6.00	59.84	2.06	6.00	59.85	2.03	6.00	59.86
2.39	6.00	59.84	2.35	6.00	59.85	2.32	6.00	59.86	2.28	6.00	59.87	2.24	6.00	59.87	2.21	6.00	59.88
2.60	6.00	59.86	2.56	6.00	59.87	2.52	6.00	59.88	2.48	6.00	59.88	2.43	6.00	59.89	2.39	6.00	59.90
2.81	6.00	59.87	2.77	6.00	59.88	2.72	6.00	59.89	2.67	6.00	59.90	2.63	6.00	59.91	2.58	6.00	59.91
3.94	6.00	59.91	3.87	6.00	59.91	3.79	6.00	59.92	3.72	6.00	59.93	3.65	6.00	59.94	3.57	6.00	59.95
1.30	8.15	58.42	1.29	8.15	58.43	1.28	8.15	58.45	1.27	8.15	58.46	1.27	8.14	58.48	1.26	8.14	58.49
1.39	8.07	58.93	1.38	8.07	58.95	1.37	8.07	58.96	1.36	8.07	58.97	1.35	8.06	58.99	1.34	8.06	59.00
1.50	8.04	59.20	1.49	8.04	59.21	1.47	8.04	59.23	1.46	8.04	59.24	1.45	8.03	59.25	1.44	8.03	59.27
1.61	8.03	59.36	1.60	8.02	59.38	1.58	8.02	59.39	1.57	8.02	59.40	1.55	8.02	59.42	1.54	8.02	59.43
1.73	8.02	59.47	1.71	8.02	59.49	1.69	8.02	59.50	1.68	8.01	59.51	1.66	8.01	59.53	1.64	8.01	59.54
1.86	8.01	59.55	1.83	8.01	59.57	1.81	8.01	59.58	1.79	8.01	59.59	1.77	8.01	59.61	1.75	8.01	59.62
2.11	8.01	59.65	2.09	8.01	59.67	2.06	8.01	59.68	2.03	8.01	59.70	2.00	8.01	59.71	1.97	8.00	59.72
2.39	8.01	59.72	2.35	8.00	59.73	2.31	8.00	59.74	2.28	8.00	59.76	2.24	8.00	59.77	2.21	8.00	59.79
2.67	8.00	59.76	2.63	8.00	59.77	2.58	8.00	59.78	2.54	8.00	59.80	2.50	8.00	59.81	2.46	8.00	59.83
2.96	8.00	59.78	2.91	8.00	59.80	2.86	8.00	59.81	2.81	8.00	59.83	2.76	8.00	59.84	2.71	8.00	59.86
3.25	8.00	59.80	3.20	8.00	59.82	3.14	8.00	59.83	3.08	8.00	59.85	3.03	8.00	59.86	2.97	8.00	59.88
3.56	8.00	59.82	3.49	8.00	59.83	3.43	8.00	59.85	3.36	8.00	59.86	3.30	8.00	59.88	3.23	8.00	59.89
5.10	8.00	59.85	5.00	8.00	59.87	4.90	8.00	59.89	4.80	8.00	59.90	4.70	8.00	59.92	4.60	8.00	59.93
1.38	10.19	58.01	1.37	10.19	58.04	1.36	10.18	58.07	1.35	10.18	58.10	1.34	10.17	58.12	1.33	10.17	58.15
1.51	10.09	58.68	1.49	10.08	58.70	1.48	10.08	58.73	1.47	10.08	58.75	1.45	10.07	58.77	1.44	10.07	58.80
1.65	10.05	59.02	1.63	10.05	59.04	1.61	10.04	59.06	1.60	10.04	59.08	1.58	10.04	59.11	1.56	10.04	59.13
1.80	10.03	59.22	1.77	10.03	59.24	1.75	10.03	59.26	1.73	10.03	59.29	1.71	10.02	59.31	1.69	10.02	59.33
1.95	10.02	59.35	1.93	10.02	59.37	1.90	10.02	59.40	1.88	10.02	59.42	1.85	10.02	59.44	1.83	10.01	59.46
2.11	10.02	59.44	2.09	10.01	59.47	2.06	10.01	59.49	2.03	10.01	59.51	2.00	10.01	59.54	1.97	10.01	59.56
2.46	10.01	59.56	2.42	10.01	59.59	2.38	10.01	59.61	2.34	10.01	59.63	2.30	10.01	59.66	2.27	10.01	59.68
2.81	10.01	59.63	2.76	10.01	59.66	2.72	10.01	59.68	2.67	10.00	59.71	2.62	10.00	59.73	2.58	10.00	59.75
3.18	10.01	59.68	3.12	10.00	59.70	3.07	10.00	59.73	3.01	10.00	59.75	2.95	10.00	59.78	2.90	10.00	59.80
3.55	10.00	59.71	3.49	10.00	59.73	3.42	10.00	59.76	3.36	10.00	59.78	3.29	10.00	59.81	3.23	10.00	59.83
3.93	10.00	59.73	3.86	10.00	55.76	3.78	10.00	59.78	3.71	10.00	59.81	3.64	10.00	59.83	3.56	10.00	59.85
4.32	10.00	59.75	4.23	10.00	59.77	4.15	10.00	59.80	4.07	10.00	59.82	3.99	10.00	59.85	3.90	10.00	59.87
6.29	10.00	59.79	6.16	10.00	59.81	6.03	10.00	59.84	5.90	10.00	59.86	5.77	10.00	59.89	5.65	10.00	59.91
1.46	12.24	57.59	1.45	12.23	57.64	1.44	12.22	57.68	1.43	12.21	57.73	1.42	12.20	57.77	1.40	12.20	57.81
1.62	12.10	58.42	1.61	12.10	58.46	1.59	12.09	58.49	1.57	12.09	58.53	1.56	12.08	58.56	1.54	12.08	58.60
1.80	12.06	58.82	1.78	12.05	58.86	1.76	12.05	58.89	1.74	12.05	58.93	1.72	12.04	58.96	1.70	12.04	59.00
1.99	12.04	59.06	1.96	12.03	59.10	1.93	12.03	59.13	1.91	12.03	59.17	1.88	12.03	59.20	1.86	12.02	59.23
2.18	12.03	59.22	2.15	12.02	59.25	2.12	12.02	59.29	2.09	12.02	59.32	2.06	12.02	59.36	2.03	12.02	59.39
2.39	12.02	59.33	2.35	12.02	59.36	2.31	12.01	59.40	2.28	12.01	59.43	2.24	12.01	59.46	2.21	12.01	59.50
2.81	12.01	59.46	2.76	12.01	59.50	2.71	12.01	59.53	2.67	12.01	59.57	2.62	12.01	59.60	2.58	12.01	59.64
3.25	12.01	59.54	3.19	12.01	59.57	3.13	12.01	59.61	3.07	12.01	59.65	3.02	12.00	59.68	2.96	12.00	59.72
3.70	12.01	59.59	3.63	12.01	59.62	3.56	12.00	59.66	3.49	12.00	59.70	3.42	12.00	59.73	3.36	12.00	59.77
4.16	12.01	59.62	4.08	12.00	59.66	4.00	12.00	59.69	3.92	12.00	59.73	3.84	12.00	59.77	3.76	12.00	59.80
4.62	12.01	59.64	4.53	12.00	59.68	4.44	12.00	59.72	4.35	12.00	59.75	4.26	12.00	59.79	4.17	12.00	59.83
5.09	12.00	59.66	4.99	12.00	55.70	4.89	12.00	59.73	4.79	12.00	59.77	4.69	12.00	59.81	4.59	12.00	59.85
7.47	12.00	59.70	7.32	12.00	59.74	7.16	12.00	59.78	7.01	12.00	59.81	6.85	12.00	59.85	6.70	12.00	59.89
1.55	14.28	57.14	1.54	14.27	57.21	1.52	14.26	57.28	1.51	14.25	57.34	1.49	14.23	57.40	1.48	14.22	57.47
1.74	14.12	58.14	1.72	14.11	58.20	1.70	14.11	58.25	1.68	14.10	58.30	1.67	14.09	58.36	1.65	14.09	58.41
1.96	14.07	58.62	1.93	14.06	58.67	1.91	14.06	58.72	1.88	14.05	58.77	1.86	14.05	58.82	1.83	14.04	58.87
2.18	14.04	58.89	2.15	14.04	58.95	2.12	14.04	59.00	2.09	14.03	59.05	2.06	14.03	59.09	2.03	14.03	59.14
2.42	14.03	59.07	2.38	14.03	59.12	2.34	14.02	59.17	2.31	14.02	59.22	2.27	14.02	59.27	2.23	14.02	59.32
2.66	14.02	59.19	2.62	14.02	59.24	2.58	14.02	59.29	2.53	14.02	59.34	2.49	14.01	59.39	2.45	14.01	59.44
3.17	14.02	59.34	3.11	14.01	59.39	3.06	14.01	59.44	3.00	14.01	59.49	2.95	14.01	59.54	2.89	14.01	59.59
3.69	14.01	59.42	3.62	14.01	59.47	3.55	14.01	59.53	3.49	14.01	59.58	3.42	14.00	59.63	3.35	14.00	59.68
4.23	14.01	59.48	4.14	14.01	59.53	4.06	14.01	59.58	3.98	14.00	59.63	3.90	14.00	59.68	3.82	14.00	59.73
4.77	14.01	59.51	4.67	14.01	59.56	4.58	14.01	59.62	4.49	14.00	59.67	4.39	14.00	59.72	4.30	14.00	59.77
5.32	14.01	59.53	5.21	14.01	59.59	5.10	14.00	59.64	4.99	14.00	59.69	4.89	14.00	59.74	4.78	14.00	59.80
5.87	14.01	59.55	5.75	14.01	55.61	5.63	14.00	59.66	5.51	14.00	59.71	5.39	14.00	59.76	5.27	14.00	59.81
8.66	14.01	59.59	8.47	14.00	59.65	8.29	14.00	59.70	8.11	14.00	59.75	7.93	14.00	59.81	7.75	14.00	59.86

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(d) $\epsilon_p = 60°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$							$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	18.32	61.27	3.0	59.05	36.23	1.77	16.51	55.88	3.68	.4892	1.92	50.21	33.67	1.66	16.36	56.54	3.06	.4679	2.19
			4.0	59.92	30.53	2.03	16.23	57.27	4.91	.4324	2.44	50.69	28.26	1.89	16.15	57.76	4.02	.3990	2.85
			5.0	60.27	27.70	2.32	16.14	57.87	6.51	.3896	2.84	50.84	25.47	2.15	16.09	58.32	5.23	.3469	3.40
			6.0	60.39	26.05	2.64	16.10	58.20	8.43	.3589	3.15	50.91	23.81	2.42	16.06	58.63	6.68	.3087	3.86
			7.0	60.40	24.99	2.96	16.08	58.41	10.69	.3366	3.39	50.94	22.75	2.71	16.04	58.83	8.38	.2804	4.24
			8.0	60.44	24.28	3.29	16.06	58.54	13.29	.3201	3.57	50.97	22.02	3.00	16.03	58.96	10.33	.2593	4.56
			10.0	60.49	23.41	3.97	16.05	58.71	19.50	.2986	3.84	50.99	21.12	3.60	16.02	59.12	14.98	.2309	5.04
			12.0	60.52	22.92	4.67	16.04	58.80	27.07	.2852	4.01	51.01	20.61	4.22	16.02	59.21	20.64	.2134	5.37
			14.0	60.53	22.62	5.38	16.04	58.85	36.01	.2768	4.12	51.01	20.29	4.85	16.02	59.27	27.32	.2020	5.60
			16.0	60.54	22.42	6.10	16.04	58.89	46.32	.2711	4.20	51.02	20.08	5.49	16.01	59.31	35.03	.1943	5.78
			18.0	60.55	22.28	6.82	16.04	58.91	58.00	.2670	4.26	51.02	19.93	6.14	16.01	59.33	43.75	.1888	5.90
			20.0	60.55	22.18	7.55	16.03	58.93	71.06	.2641	4.30	51.02	19.82	6.78	16.01	59.35	53.50	.1848	6.00
			30.0	60.56	21.94	11.21	16.03	58.98	156.9	.2569	4.41	51.03	19.57	10.05	16.01	59.40	117.6	.1749	6.24
18	20.57	61.61	3.0	58.49	39.22	1.90	18.68	54.91	4.25	.4591	1.78	50.18	35.96	1.76	18.44	55.93	3.45	.4352	2.08
			4.0	59.77	33.21	2.19	18.29	56.69	5.75	.4070	2.26	50.83	30.44	2.03	18.18	57.39	4.67	.3696	2.70
			5.0	60.16	30.35	2.53	18.18	57.41	7.73	.3683	2.62	51.03	27.66	2.32	18.10	58.03	6.12	.3213	3.20
			6.0	60.34	28.71	2.88	18.13	57.79	10.14	.3411	2.88	51.12	26.05	2.63	18.07	58.39	7.93	.2867	3.61
			7.0	60.43	27.69	3.25	18.10	58.03	12.98	.3217	3.08	51.17	25.02	2.96	18.05	58.61	10.06	.2618	3.94
			8.0	60.49	27.00	3.63	18.09	58.18	16.25	.3077	3.23	51.20	24.32	3.29	18.04	58.75	12.50	.2434	4.20
			10.0	60.56	26.17	4.41	18.07	58.36	24.07	.2895	3.43	51.23	23.47	3.98	18.03	58.93	18.33	.2192	4.60
			12.0	60.60	25.70	5.20	18.06	58.46	33.63	.2786	3.56	51.25	22.99	4.69	18.03	59.03	25.45	.2046	4.86
			14.0	60.63	25.41	6.01	18.06	58.52	44.91	.2717	3.65	51.26	22.69	5.40	18.02	59.09	33.86	.1952	5.04
			16.0	60.63	25.23	6.82	18.06	58.56	57.92	.2670	3.71	51.27	22.49	6.12	18.02	59.13	43.55	.1889	5.17
			18.0	60.64	25.10	7.63	18.05	58.59	72.66	.2638	3.75	51.27	22.36	6.85	18.02	59.16	54.53	.1844	5.26
			20.0	60.64	25.00	8.45	18.05	58.61	89.14	.2614	3.78	51.28	22.26	7.58	18.02	59.18	66.80	.1812	5.34
			30.0	60.65	24.78	12.57	18.05	58.66	197.5	.2557	3.86	51.28	22.03	11.25	18.02	59.22	147.5	.1733	5.51
20	22.80	61.98	3.0	57.54	42.70	2.03	20.97	53.57	4.93	.4319	1.63	50.07	38.41	1.86	20.54	55.20	3.89	.4065	1.96
			4.0	59.50	36.10	2.36	20.39	55.96	6.70	.3858	2.09	50.96	32.71	2.16	20.22	56.96	5.29	.3450	2.55
			5.0	60.05	33.16	2.73	20.24	56.84	9.10	.3511	2.40	51.23	29.95	2.50	20.13	57.70	7.10	.3004	3.01
			6.0	60.29	31.52	3.14	20.18	57.29	12.05	.3271	2.63	51.35	28.35	2.85	20.09	58.11	9.31	.2693	3.37
			7.0	60.43	30.50	3.55	20.14	57.56	15.54	.3103	2.79	51.41	27.35	3.22	20.07	58.35	11.90	.2472	3.65
			8.0	60.51	29.83	3.98	20.12	57.74	19.55	.2983	2.92	51.45	26.68	3.59	20.05	58.51	14.89	.2312	3.88
			10.0	60.60	29.02	4.85	20.10	57.94	29.18	.2828	3.08	51.49	25.87	4.36	20.04	58.70	22.04	.2104	4.20
			12.0	60.64	28.57	5.74	20.09	58.05	40.94	.2737	3.18	51.52	25.41	5.15	20.03	58.81	30.77	.1981	4.41
			14.0	60.67	28.29	6.64	20.08	58.12	54.82	.2679	3.25	51.53	25.13	5.95	20.03	58.87	41.07	.1902	4.55
			16.0	60.69	28.11	7.54	20.08	58.17	70.85	.2641	3.29	51.54	24.95	6.75	20.03	58.92	52.96	.1850	4.65
			18.0	60.70	27.99	8.45	20.08	58.20	89.01	.2614	3.33	51.54	24.82	7.56	20.03	58.95	66.43	.1813	4.72
			20.0	60.71	27.90	9.36	20.08	58.22	109.3	.2595	3.35	51.55	24.73	8.37	20.03	58.97	81.48	.1786	4.78
			30.0	60.73	27.69	13.94	20.07	58.27	242.8	.2548	3.41	51.56	24.51	12.44	20.02	59.02	180.5	.1720	4.91
22	25.01	62.38	3.0	55.56	47.28	2.20	23.69	51.26	5.83	.4051	1.65	59.84	41.06	1.97	22.69	54.30	4.36	.3812	1.85
			4.0	59.04	39.27	2.53	22.53	55.01	7.77	.3678	1.91	61.06	35.11	2.30	22.27	56.46	6.01	.3242	2.41
			5.0	59.82	36.16	2.95	22.32	56.11	10.64	.3370	2.20	61.42	32.31	2.67	22.15	57.32	8.17	.2833	2.82
			6.0	60.16	34.48	3.40	22.24	56.66	14.18	.3159	2.39	61.57	30.74	3.07	22.11	57.77	10.81	.2553	3.14
			7.0	60.35	33.45	3.86	22.20	56.98	18.38	.3012	2.53	61.66	29.76	3.47	22.08	58.05	13.92	.2357	3.39
			8.0	60.46	32.78	4.33	22.17	57.18	23.22	.2909	2.63	61.71	29.10	3.89	22.07	58.22	17.50	.2217	3.58
			10.0	60.58	31.98	5.30	22.14	57.42	34.83	.2776	2.77	61.76	28.32	4.74	22.05	58.44	26.08	.2037	3.84
			12.0	60.64	31.54	6.28	22.13	57.55	49.03	.2700	2.85	61.79	27.88	5.61	22.05	58.55	36.57	.1931	4.01
			14.0	60.68	31.27	7.27	22.12	57.62	65.80	.2651	2.90	61.81	27.61	6.49	22.04	58.62	48.95	.1865	4.13
			16.0	60.70	31.09	8.26	22.12	57.67	85.15	.2619	2.94	61.82	27.44	7.37	22.04	58.67	63.24	.1820	4.20
			18.0	60.72	30.97	9.26	22.11	57.71	107.1	.2597	2.96	61.83	27.32	8.26	22.04	58.70	79.43	.1789	4.26
			20.0	60.73	30.88	10.27	22.11	57.73	131.6	.2580	2.98	61.83	27.23	9.15	22.04	58.72	97.52	.1766	4.30
			30.0	60.75	30.68	15.31	22.11	57.79	292.8	.2541	3.02	61.85	27.02	13.63	22.03	58.77	216.6	.1717	4.41
24	27.21	62.82	3.0	-	-	-	-	-	-	-	-	59.40	44.01	2.08	24.91	53.12	4.90	.3585	1.72
			4.0	58.21	42.87	2.72	24.77	53.67	9.01	.3521	1.73	61.12	37.62	2.44	24.33	55.86	6.79	.3064	2.26
			5.0	59.41	39.42	3.18	24.45	55.16	12.36	.3252	1.99	61.59	34.78	2.85	24.19	56.86	9.32	.2691	2.64
			6.0	59.89	37.65	3.66	24.34	55.85	16.55	.3067	2.17	61.79	33.20	3.29	24.13	57.38	12.43	.2439	2.92
			7.0	60.15	36.59	4.17	24.28	56.24	21.52	.2940	2.29	61.90	32.23	3.73	24.10	57.69	16.09	.2265	3.13
			8.0	60.30	35.90	4.69	24.24	56.48	27.27	.2850	2.37	61.97	31.49	4.19	24.09	57.88	20.32	.2141	3.30
			10.0	60.47	35.08	5.75	24.20	56.76	41.07	.2736	2.49	62.04	30.82	5.12	24.07	58.12	30.46	.1984	3.52
			12.0	60.55	34.64	6.82	24.19	56.91	57.95	.2670	2.55	62.08	30.40	6.07	24.06	58.24	42.84	.1893	3.66
			14.0	60.60	34.37	7.90	24.18	57.00	77.89	.2629	2.59	62.10	30.14	7.03	24.06	58.32	57.48	.1835	3.75
			16.0	60.64	34.20	8.99	24.17	57.06	100.9	.2602	2.62	62.11	29.97	7.99	24.05	58.37	74.36	.1797	3.81
			18.0	60.66	34.08	10.09	24.16	57.10	127.0	.2583	2.64	62.12	29.85	8.96	24.05	58.40	93.69	.1770	3.86
			20.0	60.67	33.99	11.18	24.16	57.12	156.1	.2569	2.66	62.13	29.77	9.93	24.05	58.43	114.9	.1751	3.89
			30.0	60.71	33.79	16.68	24.15	57.19	347.9	.2536	2.69	62.14	29.57	14.80	24.04	58.48	255.5	.1705	3.97
26	29.39	63.29	3.0	-	-	-	-	-	-	-	-	58.51	47.48	2.21	27.30	51.38	5.54	.3371	1.58
			4.0	56.44	47.48	2.95	27.30	51.38	10.62	.3371	1.52	61.10	40.29	2.59	26.42	55.11	7.64	.2912	2.11
			5.0	58.63	43.11	3.42	26.68	53.81	14.36	.3151	1.79	61.73	37.35	3.03	26.24	56.31	10.57	.2572	2.46
			6.0	59.38	41.12	3.95	26.49	54.75	19.23	.2990	1.95	61.99	35.75	3.51	26.17	56.91	14.17	.2345	2.71
			7.0	59.75	39.97	4.50	26.40	55.25	25.05	.2880	2.05	62.13	34.78	3.99	26.13	57.25	18.43	.2189	2.89
			8.0	59.97	39.24	5.06	26.35	55.55	31.79	.2802	2.13	62.22	34.14	4.49	26.11	57.48	23.35	.2080	3.03
			10.0	60.21	38.39	6.21	26.30	55.90	47.99	.2704	2.23	62.31	33.38	5.50	26.09	57.73	35.16	.1942	3.22
			12.0	60.33	37.93	7.38	26.27	56.08	67.81	.2647	2.28	62.36	32.97	6.53	26.08	57.87	49.58	.1862	3.34
			14.0	60.40	37.65	8.55	26.26	56.19	91.24	.2612	2.32	62.38	32.71	7.57	26.07	57.96	66.62	.1812	3.41
			16.0	60.44	37.47	9.73	26.25	56.26	118.3	.2588	2.34	62.40	32.55	8.61	26.07	58.01	86.29	.1779	3.46
			18.0	60.47	37.35	10.92	26.24	56.31	148.9	.2572	2.36	62.41	32.44	9.65	26.07	58.05	108.6	.1756	3.50
			20.0	60.49	37.26	12.11	26.24	56.34	183.2	.2560	2.37	62.42	32.35	10.70	26.07	58.08	133.5	.1739	3.53
			30.0	60.54	37.05	18.08	26.23	56.42	408.5	.2532	2.40	62.44	32.16	15.97	26.06	58.14	297.3	.1699	3.59
28	31.55	63.80	3.0	-	-	-	-	-	-	-	-	55.61	53.02	2.40	30.53	47.30	6.53	.3117	1.37
			4.0	-	-	-	-	-	-	-	-	60.95	43.17	2.74	28.56	54.14	8.57	.2779	1.95
			5.0	56.95	47.76	3.70	29.16	51.51	16.89	.3056	1.56	61.80	40.05	3.22	28.31	55.62	11.91	.2472	2.28
			6.0	58.36	45.19	4.25	28.77	53.09	22.38	.2923	1.72	62.15	38.41	3.73	28.22	56.32	16.04	.2266	2.51
			7.0	58.98	43.79	4.84	28.62	53.83	29.10	.2829	1.82	62.33	37.42	4.25	28.18	56.73	20.94	.2127	2.67
			8.0	59.32	42.96	5.45	28.54	54.25	36.93	.2761	1.89	62.44	36.78	4.79	28.15	56.98	26.60	.2030	2.79
			10.0	59.68	42.01	6.69	28.45	54.72	55.77	.2677	1.98	62.56	36.02	5.88	28.12	57.27	40.18	.1908	2.95
			12.0	59.86	41.50	7.95	28.41	54.96	78.85	.2628	2.03	62.62	35.60	6.99	28.11	57.43	56.77	.1837	3.05
			14.0	59.96	41.20	9.22	28.39	55.10	106.1	.2597	2.06	62.66	35.35	8.10	28.10	57.52	76.39	.1794	3.11
			16.0	60.02	41.01	10.50	28.38	55.19	137.6	.2577	2.08	62.68	35.19	9.22	28.10	57.58	99.02	.1765	3.15
			18.0	60.07	40.88	11.78	28.37	55.25	173.3	.2563	2.09	62.70	35.08	10.34	28.09	57.63	124.7	.1745	3.18
			20.0	60.10	40.78	13.06	28.36	55.29	213.2	.2553	2.10	62.71	35.00	11.47	28.09	57.66	153.9	.1730	3.20
			30.0	60.17	40.56	19.51	28.35	55.39	475.8	.2529	2.13	62.73	34.81	17.12	28.08	57.73	361.9	.1695	3.26

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(ϵ, ϵ_p=60°; Γ=0°; ϵ_r = 0° - Continued

γ_e = 1.35			γ_e = 1.30			γ_e = 1.25			γ_e = 1.20			γ_e = 1.15			γ_e = 1.10		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.64	16.34	56.64	1.63	16.32	56.74	1.61	16.30	56.84	1.59	16.28	56.94	1.57	16.27	57.03	1.56	16.25	57.11
1.87	16.14	57.84	1.85	16.13	57.92	1.82	16.12	57.99	1.80	16.11	58.07	1.78	16.10	58.14	1.75	16.10	58.21
2.12	16.08	58.39	2.09	16.07	58.46	2.06	16.07	58.54	2.03	16.06	58.61	2.00	16.05	58.68	1.97	16.05	58.74
2.38	16.05	58.70	2.35	16.05	58.78	2.31	16.04	58.85	2.27	16.04	58.92	2.24	16.03	58.98	2.20	16.03	59.05
2.66	16.04	58.90	2.62	16.03	58.97	2.57	16.03	59.04	2.53	16.02	59.11	2.49	16.02	59.18	2.44	16.02	59.24
2.95	16.03	59.03	2.90	16.02	59.10	2.84	16.02	59.17	2.79	16.02	59.24	2.74	16.01	59.31	2.69	16.01	59.38
3.54	16.02	59.20	3.47	16.02	59.27	3.40	16.01	59.34	3.34	16.01	59.41	3.27	16.01	59.47	3.21	16.01	59.54
4.14	16.02	59.29	4.06	16.01	59.36	3.98	16.01	59.43	3.90	16.01	59.50	3.82	16.01	59.57	3.74	16.00	59.63
4.76	16.01	59.34	4.66	16.01	59.42	4.57	16.01	59.49	4.47	16.01	59.56	4.38	16.00	59.62	4.29	16.00	59.69
5.38	16.01	59.38	5.27	16.01	59.45	5.16	16.01	59.52	5.05	16.01	59.59	4.95	16.00	59.66	4.84	16.00	59.73
6.01	16.01	59.41	5.89	16.01	59.48	5.76	16.01	59.55	5.64	16.00	59.62	5.52	16.00	59.69	5.40	16.00	59.76
6.64	16.01	59.42	6.50	16.01	59.50	6.37	16.01	59.57	6.23	16.00	59.64	6.09	16.00	59.71	5.96	16.00	59.78
9.84	16.01	59.47	9.63	16.01	59.54	9.42	16.00	59.61	9.21	16.00	59.68	9.00	16.00	59.76	8.80	16.00	59.82
1.74	18.41	56.08	1.72	18.38	56.23	1.70	18.35	56.36	1.67	18.33	56.50	1.65	18.30	56.62	1.63	18.28	56.74
2.00	18.17	57.50	1.97	18.15	57.61	1.94	18.14	57.72	1.91	18.13	57.82	1.89	18.12	57.92	1.86	18.11	58.02
2.29	18.09	58.14	2.25	18.08	58.24	2.21	18.07	58.33	2.18	18.07	58.43	2.15	18.06	58.52	2.11	18.05	58.61
2.59	18.06	58.49	2.55	18.05	58.59	2.50	18.05	58.68	2.46	18.04	58.77	2.42	18.03	58.86	2.38	18.03	58.95
2.91	18.04	58.71	2.86	18.04	58.80	2.81	18.03	58.90	2.76	18.03	59.99	2.71	18.02	59.08	2.66	18.02	59.17
3.23	18.04	58.85	3.17	18.03	58.95	3.12	18.02	59.04	3.06	18.02	59.13	3.00	18.02	59.22	2.94	18.01	59.31
3.91	18.03	59.03	3.83	18.02	59.12	3.75	18.02	59.22	3.68	18.01	59.31	3.61	18.01	59.40	3.53	18.01	59.49
4.59	18.02	59.13	4.50	18.02	59.22	4.41	18.01	59.32	4.32	18.01	59.41	4.23	18.01	59.50	4.14	18.00	59.59
5.29	18.02	59.19	5.18	18.01	59.28	5.07	18.01	59.38	4.97	18.01	59.47	4.86	18.01	59.56	4.76	18.00	59.65
6.00	18.02	59.23	5.87	18.01	59.32	5.75	18.01	59.42	5.62	18.01	59.51	5.50	18.00	59.60	5.38	18.00	59.69
6.70	18.01	59.25	6.56	18.01	59.35	6.42	18.01	59.44	6.29	18.01	59.53	6.15	18.00	59.63	6.01	18.00	59.72
7.42	18.01	59.27	7.26	18.01	59.37	7.10	18.01	59.46	6.95	18.01	59.55	6.80	18.00	59.65	6.64	18.00	59.74
11.01	18.01	59.32	10.77	18.01	59.42	10.54	18.01	59.51	10.30	18.00	59.60	10.07	18.00	59.69	9.84	18.00	59.78
1.84	20.50	55.42	1.81	20.45	55.63	1.79	20.41	55.83	1.76	20.38	56.01	1.74	20.35	56.18	1.71	20.32	56.35
2.13	20.20	57.12	2.10	20.18	57.27	2.06	20.16	57.41	2.03	20.14	57.55	2.00	20.13	57.68	1.97	20.11	57.81
2.45	20.11	57.84	2.41	20.10	57.98	2.37	20.09	58.11	2.33	20.07	58.24	2.29	20.06	58.36	2.26	20.06	58.48
2.80	20.07	58.24	2.75	20.06	58.37	2.70	20.05	58.49	2.65	20.05	58.62	2.60	20.04	58.74	2.56	20.03	58.85
3.16	20.06	58.48	3.10	20.05	58.61	3.04	20.04	58.73	2.98	20.03	58.85	2.93	20.03	58.97	2.87	20.02	59.08
3.52	20.04	58.64	3.46	20.04	58.77	3.39	20.03	58.89	3.32	20.02	59.01	3.26	20.02	59.12	3.19	20.01	59.24
4.28	20.03	58.83	4.19	20.03	58.96	4.11	20.02	59.08	4.02	20.02	59.20	3.94	20.01	59.31	3.86	20.01	59.42
5.04	20.03	58.94	4.94	20.02	59.06	4.84	20.02	59.18	4.74	20.01	59.30	4.63	20.01	59.42	4.53	20.01	59.53
5.82	20.02	59.00	5.70	20.02	59.13	5.58	20.01	59.25	5.46	20.01	59.36	5.34	20.01	59.48	5.22	20.00	59.59
6.61	20.02	59.04	6.47	20.02	59.17	6.33	20.01	59.29	6.19	20.01	59.41	6.05	20.01	59.52	5.92	20.00	59.64
7.40	20.02	59.07	7.24	20.02	59.20	7.08	20.01	59.32	6.93	20.01	59.44	6.77	20.00	59.55	6.62	20.00	59.67
8.19	20.02	59.09	8.01	20.01	59.22	7.84	20.01	59.34	7.66	20.01	59.46	7.49	20.00	59.57	7.32	20.00	59.69
12.18	20.02	59.14	11.91	20.01	59.27	11.65	20.01	59.39	11.39	20.01	59.51	11.13	20.00	59.62	10.87	20.00	59.74
1.94	22.61	54.63	1.91	22.55	54.93	1.88	22.49	55.21	1.85	22.44	55.46	1.82	22.40	55.70	1.79	22.36	55.92
2.26	22.24	56.67	2.22	22.21	56.88	2.19	22.18	57.07	2.15	22.16	57.25	2.12	22.14	57.42	2.08	22.12	57.59
2.63	22.13	57.51	2.58	22.12	57.69	2.53	22.10	57.86	2.49	22.08	58.02	2.44	22.07	58.18	2.40	22.06	58.33
3.01	22.09	57.95	2.95	22.08	58.12	2.90	22.06	58.28	2.84	22.05	58.44	2.79	22.04	58.59	2.74	22.03	58.74
3.41	22.07	58.22	3.34	22.06	58.38	3.28	22.05	58.54	3.21	22.04	58.70	3.15	22.03	58.85	3.09	22.02	58.99
3.81	22.06	58.39	3.74	22.05	58.56	3.66	22.04	58.71	3.59	22.03	58.86	3.52	22.02	59.01	3.44	22.02	59.16
4.65	22.04	58.60	4.55	22.03	58.76	4.46	22.03	58.92	4.36	22.02	59.07	4.27	22.01	59.21	4.18	22.01	59.36
5.49	22.04	58.71	5.38	22.03	58.87	5.26	22.02	59.03	5.15	22.01	59.18	5.04	22.01	59.32	4.93	22.01	59.47
6.35	22.03	58.78	6.22	22.02	58.94	6.08	22.02	59.10	5.95	22.01	59.25	5.82	22.01	59.39	5.69	22.00	59.53
7.21	22.03	58.83	7.06	22.02	58.99	6.91	22.02	59.14	6.75	22.01	59.29	6.60	22.01	59.44	6.45	22.00	59.58
8.08	22.03	58.86	7.91	22.02	59.02	7.73	22.01	59.17	7.56	22.01	59.32	7.39	22.01	59.47	7.22	22.00	59.61
8.95	22.03	58.88	8.76	22.02	59.04	8.56	22.01	59.19	8.37	22.01	59.34	8.18	22.01	59.49	8.00	22.00	59.63
13.33	22.02	58.94	13.04	22.02	59.09	12.75	22.01	59.25	12.46	22.01	59.39	12.17	22.00	59.54	11.89	22.00	59.68
2.04	24.78	53.63	2.01	24.68	54.08	1.97	24.59	54.47	1.94	24.52	54.82	1.91	24.46	55.15	1.88	24.40	55.44
2.40	24.29	56.15	2.35	24.25	56.42	2.31	24.22	56.67	2.27	24.19	56.91	2.23	24.16	57.14	2.20	24.14	57.35
2.80	24.16	57.11	2.75	24.14	57.34	2.69	24.12	57.57	2.64	24.10	57.78	2.60	24.08	57.98	2.55	24.07	58.17
3.22	24.11	57.61	3.16	24.09	57.83	3.10	24.08	58.04	3.04	24.06	58.24	2.98	24.05	58.43	2.92	24.04	58.62
3.66	24.09	57.91	3.58	24.07	58.12	3.51	24.06	58.32	3.44	24.04	58.52	3.37	24.03	58.71	3.30	24.02	58.89
4.10	24.07	58.10	4.02	24.06	58.31	3.94	24.04	58.51	3.86	24.03	58.70	3.78	24.02	58.89	3.70	24.02	59.06
5.02	24.05	58.33	4.91	24.04	58.53	4.80	24.03	58.73	4.70	24.02	58.92	4.60	24.02	59.10	4.50	24.01	59.28
5.94	24.05	58.45	5.81	24.04	58.65	5.69	24.03	58.85	5.56	24.02	59.04	5.44	24.01	59.22	5.32	24.01	59.39
6.88	24.04	58.53	6.73	24.03	58.73	6.58	24.02	58.92	6.43	24.02	59.11	6.29	24.01	59.29	6.15	24.01	59.46
7.82	24.04	58.58	7.65	24.03	58.78	7.48	24.02	58.97	7.31	24.01	59.16	7.14	24.01	59.34	6.98	24.00	59.51
8.76	24.04	58.61	8.57	24.03	58.81	8.38	24.02	59.00	8.19	24.01	59.19	8.00	24.01	59.37	7.82	24.00	59.54
9.71	24.04	58.63	9.50	24.03	58.83	9.28	24.02	59.02	9.07	24.01	59.21	8.87	24.01	59.39	8.66	24.00	59.57
14.48	24.03	58.69	14.15	24.02	58.89	13.83	24.02	59.08	13.52	24.01	59.27	13.20	24.01	59.45	12.90	24.00	59.62
2.16	27.05	52.27	2.11	26.87	52.97	2.07	26.73	53.56	2.03	26.62	54.06	1.99	26.54	54.50	1.96	26.46	54.90
2.54	26.36	55.51	2.49	26.30	55.88	2.44	26.26	56.21	2.39	26.21	56.53	2.35	26.18	56.82	2.31	26.15	57.09
2.97	26.20	56.64	2.91	26.17	56.94	2.86	26.14	57.23	2.80	26.11	57.50	2.75	26.09	57.75	2.69	26.07	58.00
3.43	26.14	57.21	3.36	26.11	57.49	3.30	26.09	57.76	3.23	26.07	58.01	3.16	26.05	58.25	3.10	26.04	58.48
3.91	26.11	57.54	3.83	26.09	57.81	3.75	26.07	58.07	3.67	26.05	58.31	3.59	26.04	58.55	3.52	26.03	58.77
4.39	26.09	57.76	4.30	26.07	58.02	4.21	26.05	58.27	4.12	26.04	58.51	4.03	26.03	58.74	3.95	26.02	58.96
5.38	26.07	58.01	5.27	26.05	58.26	5.15	26.04	58.51	5.04	26.03	58.74	4.93	26.02	58.97	4.82	26.01	59.19
6.39	26.06	58.14	6.25	26.05	58.40	6.11	26.03	58.64	5.97	26.02	58.87	5.84	26.01	59.10	5.71	26.01	59.31
7.40	26.06	58.22	7.23	26.04	58.48	7.07	26.03	58.72	6.91	26.02	58.95	6.76	26.01	59.17	6.60	26.01	59.39
8.42	26.05	58.28	8.23	26.04	58.53	8.04	26.03	58.77	7.86	26.02	59.00	7.68	26.01	59.22	7.50	26.01	59.43
9.44	26.05	58.31	9.23	26.04	58.56	9.02	26.03	58.80	8.81	26.02	59.03	8.61	26.01	59.25	8.41	26.01	59.47
10.46	26.05	58.34	10.23	26.04	58.59	10.00	26.02	58.83	9.77	26.02	59.06	9.54	26.01	59.28	9.32	26.00	59.49
15.61	26.05	58.40	15.25	26.03	58.65	14.91	26.02	58.89	14.56	26.01	59.12	14.22	26.01	59.34	13.89	26.00	59.55
2.29	29.56	50.12	2.23	29.18	51.43	2.17	28.94	52.36	2.13	28.77	53.11	2.08	28.64	53.73	2.04	28.53	54.27
2.68	28.45	54.72	2.62	28.37	55.22	2.57	28.31	55.67	2.52	28.25	56.08	2.47	28.21	56.45	2.42	28.17	56.80
3.15	28.25	56.06	3.08	28.20	56.47	3.02	28.16	56.84	2.96	28.13	57.18	2.90	28.10	57.50	2.84	28.08	57.80
3.65	28.18	56.72	3.57	28.14	57.09	3.49	28.11	57.43	3.42	28.08	57.74	3.35	28.06	58.04	3.28	28.05	58.33
4.16	28.14	57.10	4.07	28.11	57.45	3.98	28.08	57.77	3.90	28.06	58.08	3.81	28.04	58.37	3.73	28.03	58.64
4.68	28.12	57.34	4.58	28.09	57.68	4.48	28.07	57.99	4.38	28.05	58.29	4.29	28.03	58.58	4.19	28.02	58.85
5.75	28.09	57.62	5.62	28.07	57.95	5.49	28.05	58.25	5.37	28.03	58.55	5.25	28.02	58.82	5.13	28.01	59.09
6.83	28.08	57.77	6.67	28.06	58.09	6.52	28.04	58.40	6.38	28.03	58.68	6.23	28.02	58.96	6.09	28.01	59.22
7.92	28.07	57.86	7.74	28.05	58.18	7.56	28.04	58.48	7.39	28.03	58.76	7.22	28.02	59.04	7.05	28.01	59.30
9.01	28.07	57.92	8.80	28.05	58.24	8.60	28.04	58.53	8.40	28.02	58.82	8.21	28.01	59.09	8.02	28.01	59.35
10.11	28.07	57.96	9.88	28.05	58.27	9.65	28.03	58.57	9.43	28.02	58.85	9.21	28.01	59.12	8.99	28.01	59.38
11.21	28.07	57.99	10.95	28.05	58.30	10.70	28.03	58.60	10.45	28.02	58.88	10.21	28.01	59.15	9.97	28.01	59.41
16.73	28.06	58.06	16.34	28.04	58.37	15.96	28.03	58.66	15.59	28.02	58.94	15.23	28.01	59.21	14.86	28.00	59.47

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES—Continued

(d) $\epsilon_p = 60°$; $\Gamma = 0°$; $\epsilon_r = 0°$ — Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
30	33.69	64.34	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	60.54	46.36	2.89	30.77	52.42	9.81	.2661	1.79
			5.0	–	–	–	–	–	–	–	–	61.77	42.92	3.41	30.42	54.74	13.36	.2389	2.10
			6.0	55.41	51.16	4.07	31.06	49.40	27.07	.2852	1.44	62.24	41.19	3.75	30.26	55.49	14.59	.2260	2.31
			7.0	57.20	48.56	5.26	31.12	51.31	34.30	.2781	1.57	62.48	40.17	4.52	30.23	56.05	23.62	.2075	2.65
			8.0	57.92	47.47	5.90	30.92	52.12	43.22	.2725	1.64	62.62	39.51	5.04	30.20	56.37	30.06	.1988	2.86
			10.0	58.58	46.24	7.22	30.75	52.89	59.00	.2653	1.73	62.78	38.74	6.26	30.16	56.71	44.52	.1857	3.20
			12.0	58.89	45.62	8.58	30.68	53.26	91.76	.2611	1.77	62.86	38.32	7.44	30.15	56.89	64.42	.1817	3.52
			14.0	59.06	45.26	9.94	30.64	53.47	123.4	.2585	1.80	62.90	38.07	8.63	30.14	56.99	85.76	.1779	3.83
			16.0	59.17	45.03	11.32	30.61	53.60	160.0	.2568	1.82	62.93	37.90	9.83	30.13	57.06	112.5	.1743	4.17
			18.0	59.24	44.87	12.70	30.60	53.69	202.6	.2556	1.83	62.95	37.79	11.03	30.13	57.11	141.6	.1710	4.49
			20.0	59.29	44.76	14.08	30.58	53.75	247.8	.2547	1.84	62.96	37.71	12.23	30.12	57.14	174.4	.1722	4.81
			30.0	59.41	44.50	21.43	30.56	53.90	552.6	.2526	1.87	63.00	37.52	18.27	30.12	57.22	398.2	.1692	6.49
32	35.81	64.91	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	9.56	50.29	3.07	33.19	50.70	10.65	.2549	1.61
			5.0	–	–	–	–	–	–	–	–	1.54	46.05	3.60	32.58	53.55	14.96	.2310	1.92
			6.0	–	–	–	–	–	–	–	–	2.20	44.18	4.18	32.40	54.65	20.21	.2144	2.11
			7.0	–	–	–	–	–	–	–	–	2.53	43.07	4.78	32.32	55.23	26.49	.2031	2.24
			8.0	–	–	–	–	–	–	–	–	2.72	42.37	5.39	32.27	55.55	33.75	.1953	2.34
			10.0	–	–	–	–	–	–	–	–	2.93	41.57	6.64	32.22	55.90	52.25	.1856	2.48
			12.0	56.01	51.68	9.42	33.51	49.47	110.6	.2594	1.46	3.03	41.24	7.89	32.20	56.21	72.54	.1800	2.59
			14.0	56.62	51.09	10.86	33.33	50.14	147.4	.2573	1.50	3.09	40.99	9.16	32.19	56.33	97.77	.1766	2.68
			16.0	56.94	50.75	12.34	33.24	50.50	190.2	.2559	1.53	3.13	40.71	10.44	32.18	56.41	128.9	.1743	2.75
			18.0	57.13	50.18	13.82	33.18	50.71	238.6	.2549	1.54	3.16	40.69	11.71	32.17	56.47	165.9	.1727	2.83
			20.0	57.26	49.99	15.32	33.15	50.88	292.3	.2541	1.56	3.17	40.51	12.99	32.17	56.51	198.6	.1716	2.89
			30.0	57.54	49.57	22.84	33.07	51.18	652.9	.2524	1.58	3.22	40.32	19.41	32.16	56.60	483.4	.1687	3.26
34	37.91	65.51	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	0.91	49.63	3.81	34.67	51.77	10.77	.2241	1.73
			5.0	–	–	–	–	–	–	–	–	1.95	47.60	4.42	34.47	52.34	22.59	.2044	1.97
			6.0	–	–	–	–	–	–	–	–	2.42	46.18	5.05	34.45	54.12	29.59	.1983	2.04
			7.0	–	–	–	–	–	–	–	–	2.69	45.42	5.70	34.38	54.67	37.72	.1923	2.12
			8.0	–	–	–	–	–	–	–	–	2.97	44.56	7.02	34.31	55.00	57.27	.1838	2.23
			10.0	–	–	–	–	–	–	–	–	3.11	44.10	8.35	34.28	55.34	81.20	.1786	2.30
			12.0	–	–	–	–	–	–	–	–	3.19	43.83	9.69	34.26	55.49	109.6	.1758	2.34
			14.0	–	–	–	–	–	–	–	–	3.24	43.65	11.04	34.25	55.59	142.1	.1735	2.36
			16.0	–	–	–	–	–	–	–	–	3.28	43.53	12.40	34.24	55.65	179.1	.1721	2.38
			18.0	–	–	–	–	–	–	–	–	3.30	43.44	13.75	34.24	55.70	220.6	.1711	2.40
			20.0	–	–	–	–	–	–	–	–	3.36	43.24	20.55	34.23	55.81	492.5	.1686	2.43
36	39.99	66.14	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	58.78	54.77	4.08	37.71	47.81	15.28	.2166	1.48
			6.0	–	–	–	–	–	–	–	–	61.19	51.18	4.67	36.90	51.29	25.33	.2048	1.70
			7.0	–	–	–	–	–	–	–	–	61.98	49.67	5.34	36.67	52.40	35.05	.1956	1.83
			8.0	–	–	–	–	–	–	–	–	62.40	48.78	6.02	36.56	53.13	42.05	.1867	1.91
			10.0	–	–	–	–	–	–	–	–	62.81	47.66	7.41	36.46	53.82	63.89	.1819	2.01
			12.0	–	–	–	–	–	–	–	–	63.01	47.06	8.82	36.41	54.16	90.82	.1774	2.07
			14.0	–	–	–	–	–	–	–	–	63.13	46.68	10.24	36.38	54.35	122.1	.1746	2.10
			16.0	–	–	–	–	–	–	–	–	63.20	46.79	11.66	36.36	54.47	156.5	.1728	2.13
			18.0	–	–	–	–	–	–	–	–	63.25	46.65	13.09	36.35	54.56	194.7	.1715	2.15
			20.0	–	–	–	–	–	–	–	–	63.28	46.56	14.52	36.35	54.62	236.7	.1706	2.16
			30.0	–	–	–	–	–	–	–	–	63.30	46.30	21.70	36.33	54.76	549.3	.1686	2.19
38	42.16	66.80	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			7.0	–	–	–	–	–	–	–	–	60.61	54.13	3.67	39.22	40.43	37.37	.1926	1.58
			8.0	–	–	–	–	–	–	–	–	61.48	52.79	4.37	38.94	50.76	47.20	.1872	1.68
			10.0	–	–	–	–	–	–	–	–	62.23	51.50	7.83	38.73	51.87	71.28	.1803	1.79
			12.0	–	–	–	–	–	–	–	–	62.56	50.86	9.31	38.64	52.41	100.5	.1763	1.84
			14.0	–	–	–	–	–	–	–	–	62.74	50.50	10.80	38.59	52.72	136.0	.1735	1.87
			16.0	–	–	–	–	–	–	–	–	62.86	50.26	12.30	38.56	52.88	176.5	.1717	1.90
			18.0	–	–	–	–	–	–	–	–	62.93	50.11	13.81	38.54	53.00	222.4	.1710	1.91
			20.0	–	–	–	–	–	–	–	–	62.98	50.00	15.32	38.53	53.08	273.7	.1702	1.92
			30.0	–	–	–	–	–	–	–	–	63.10	49.74	22.89	38.50	53.29	611.3	.1683	1.95
40	44.10	67.48	4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			7.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			8.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			10.0	–	–	–	–	–	–	–	–	59.79	57.09	8.40	41.87	47.10	82.76	.1765	1.47
			12.0	–	–	–	–	–	–	–	–	60.98	55.60	9.90	41.35	49.94	114.3	.1752	1.56
			14.0	–	–	–	–	–	–	–	–	61.44	54.96	11.46	41.10	49.63	150.1	.1732	1.61
			16.0	–	–	–	–	–	–	–	–	61.70	54.59	13.04	41.02	50.04	191.2	.1716	1.64
			18.0	–	–	–	–	–	–	–	–	61.86	54.35	14.63	40.98	50.25	237.5	.1706	1.66
			20.0	–	–	–	–	–	–	–	–	61.96	54.19	16.22	40.94	50.42	288.7	.1698	1.67
			30.0	–	–	–	–	–	–	–	–	62.20	53.82	24.21	40.87	50.78	684.1	.1681	1.70
42	46.11	68.19	4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			7.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			8.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			10.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			14.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			16.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			18.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			20.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			30.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(d) $\epsilon_p = 60°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
-	-	-	2.36	31.87	48.70	2.28	31.30	50.64	2.22	30.99	51.85	2.17	30.78	52.77	2.13	30.63	53.52
2.82	30.60	53.68	2.76	30.47	54.39	2.70	30.37	55.00	2.64	30.30	55.54	2.59	30.24	56.02	2.53	30.19	56.46
3.33	30.33	55.35	3.25	30.25	55.88	3.18	30.20	56.36	3.11	30.15	56.80	3.05	30.12	57.20	2.98	30.09	57.58
3.86	30.23	56.12	3.77	30.17	56.60	3.69	30.13	57.03	3.61	30.10	57.43	3.53	30.07	57.81	3.46	30.05	58.15
4.41	30.18	56.56	4.31	30.13	57.01	4.22	30.10	57.42	4.12	30.07	57.80	4.03	30.05	58.16	3.94	30.03	58.49
4.97	30.15	56.84	4.86	30.11	57.27	4.75	30.08	57.67	4.64	30.06	58.04	4.54	30.04	58.39	4.44	30.03	58.71
5.11	30.12	57.16	5.97	30.09	57.57	5.83	30.06	57.95	5.70	30.04	58.31	5.57	30.03	58.65	5.44	30.02	58.97
7.27	30.11	57.33	7.10	30.08	57.73	6.93	30.05	58.11	6.77	30.04	58.46	6.62	30.02	58.79	6.46	30.01	59.11
8.43	30.10	57.43	8.23	30.07	57.83	8.04	30.05	58.20	7.85	30.03	58.55	7.67	30.02	58.88	7.49	30.01	59.19
9.60	30.09	57.49	9.37	30.07	57.89	9.15	30.05	58.26	8.94	30.03	58.61	8.73	30.02	58.94	8.53	30.01	59.25
10.77	30.09	57.54	10.52	30.06	57.93	10.27	30.04	58.30	10.03	30.03	58.65	9.79	30.02	58.97	9.56	30.01	59.28
11.94	30.09	57.57	11.66	30.06	57.96	11.39	30.04	58.33	11.12	30.03	58.68	10.86	30.02	59.00	10.60	30.01	59.31
17.84	30.08	57.64	17.42	30.06	58.03	17.01	30.04	58.40	16.60	30.02	58.74	16.21	30.01	59.07	15.82	30.01	59.37
-	-	-	-	-	-	2.43	34.23	47.16	2.33	33.37	49.99	2.27	33.00	51.49	2.21	32.76	52.58
2.98	32.83	52.23	2.90	32.62	53.31	2.83	32.47	54.17	2.76	32.36	54.89	2.70	32.28	55.52	2.65	32.21	56.07
3.51	32.43	54.43	3.42	32.33	55.16	3.34	32.25	55.79	3.27	32.18	56.36	3.20	32.14	56.86	3.13	32.10	57.32
4.08	32.30	55.38	3.98	32.22	56.01	3.89	32.16	56.57	3.80	32.12	57.07	3.72	32.09	57.53	3.63	32.06	57.95
4.66	32.23	55.90	4.55	32.17	56.48	4.45	32.13	57.00	4.35	32.09	57.48	4.25	32.06	57.92	4.15	32.04	58.32
5.26	32.20	56.22	5.14	32.14	56.78	5.02	32.10	57.28	4.90	32.07	57.74	4.79	32.05	58.16	4.68	32.03	58.56
6.47	32.16	56.59	6.32	32.12	57.12	6.17	32.08	57.60	6.03	32.05	58.04	5.89	32.03	58.45	5.75	32.02	58.84
7.70	32.14	56.78	7.52	32.10	57.30	7.34	32.07	57.77	7.17	32.05	59.20	7.00	32.03	58.61	6.83	32.01	58.99
8.94	32.13	56.90	8.72	32.09	57.41	8.52	32.06	57.87	8.31	32.04	58.30	8.12	32.02	58.70	7.93	32.01	59.07
10.18	32.13	56.97	9.93	32.09	57.47	9.70	32.06	57.94	9.47	32.04	58.36	9.24	32.02	58.76	9.02	32.01	59.13
11.43	32.12	57.02	11.15	32.09	57.52	10.88	32.06	57.98	10.62	32.04	58.40	10.37	32.02	58.80	10.12	32.01	59.17
12.67	32.12	57.06	12.37	32.08	57.56	12.07	32.06	58.01	11.78	32.03	58.44	11.50	32.02	58.83	11.23	32.01	59.20
18.93	32.11	57.14	18.47	32.08	57.64	18.03	32.05	58.09	17.60	32.03	58.51	17.18	32.02	58.90	16.77	32.01	59.27
-	-	-	-	-	-	-	-	-	2.49	36.54	45.71	2.37	35.37	49.60	2.30	34.96	51.34
3.15	35.32	49.78	3.05	34.87	51.77	2.96	34.61	53.07	2.89	34.45	54.08	2.82	34.33	54.91	2.76	34.25	55.62
3.69	34.60	53.17	3.60	34.43	54.23	3.51	34.31	55.09	3.42	34.23	55.82	3.35	34.16	56.46	3.27	34.11	57.03
4.30	34.40	54.40	4.19	34.29	55.26	4.08	34.21	55.99	3.99	34.15	56.63	3.90	34.10	57.21	3.81	34.07	57.72
4.92	34.32	55.05	4.79	34.22	55.82	4.68	34.16	56.50	4.57	34.11	57.10	4.46	34.07	57.64	4.36	34.05	58.13
5.55	34.27	55.44	5.41	34.19	56.17	5.28	34.13	56.81	5.15	34.09	57.39	5.03	34.06	57.91	4.92	34.03	58.39
6.83	34.22	55.87	6.66	34.15	56.56	6.50	34.10	57.17	6.35	34.07	57.72	6.20	34.04	58.22	6.05	34.02	58.68
8.14	34.20	56.10	7.93	34.13	56.77	7.74	34.09	57.36	7.55	34.06	57.90	7.37	34.03	58.39	7.20	34.02	58.84
9.44	34.18	56.24	9.21	34.12	56.89	8.98	34.08	57.48	8.77	34.05	58.00	8.56	34.03	58.49	8.35	34.01	58.94
10.76	34.17	56.32	10.49	34.12	56.97	10.23	34.08	57.55	9.99	34.05	58.07	9.75	34.03	58.55	9.51	34.01	59.00
12.08	34.17	56.38	11.78	34.11	57.03	11.49	34.07	57.60	11.21	34.05	58.12	10.94	34.03	58.60	10.67	34.01	59.04
13.40	34.16	56.43	13.06	34.11	57.06	12.74	34.07	57.63	12.43	34.04	58.15	12.13	34.02	58.63	11.84	34.01	59.07
20.02	34.16	56.52	19.52	34.10	57.15	19.04	34.07	57.72	18.58	34.04	58.23	18.13	34.02	58.71	17.69	34.01	59.15
-	-	-	-	-	-	-	-	-	-	-	-	2.51	38.51	45.29	2.40	37.29	49.56
-	-	-	3.22	37.40	49.10	3.10	36.85	51.52	3.02	36.58	53.02	2.94	36.41	54.15	2.87	36.29	55.07
3.90	36.90	51.27	3.77	36.59	52.96	3.67	36.40	54.18	3.58	36.28	55.15	3.49	36.19	55.97	3.41	36.13	56.68
4.52	36.58	53.05	4.39	36.39	54.29	4.28	36.27	55.28	4.17	36.18	56.11	4.07	36.12	56.82	3.98	36.08	57.46
5.17	36.44	53.90	5.03	36.30	54.99	4.90	36.20	55.88	4.78	36.14	56.64	4.67	36.09	57.30	4.56	36.05	57.90
5.84	36.37	54.40	5.68	36.25	55.41	5.54	36.17	56.24	5.40	36.11	56.96	5.27	36.07	57.61	5.15	36.04	58.18
7.20	36.30	54.95	7.01	36.20	55.87	6.83	36.13	56.65	6.66	36.08	57.34	6.50	36.05	57.95	6.34	36.03	58.51
8.57	36.27	55.23	8.34	36.18	56.11	8.13	36.12	56.87	7.93	36.07	57.54	7.74	36.04	58.14	7.55	36.02	58.68
9.95	36.25	55.40	9.69	36.17	56.26	9.44	36.11	57.00	9.21	36.07	57.66	8.99	36.04	58.25	8.77	36.02	58.78
11.34	36.24	55.50	11.04	36.16	56.35	10.76	36.10	57.08	10.49	36.06	57.73	10.24	36.03	58.32	9.99	36.02	58.85
12.73	36.23	55.57	12.39	36.15	56.41	12.08	36.10	57.14	11.78	36.06	57.78	11.49	36.03	58.36	11.21	36.01	58.90
14.12	36.23	55.62	13.75	36.15	56.46	13.40	36.10	57.18	13.07	36.06	57.82	12.75	36.03	58.40	12.44	36.01	58.93
21.11	36.22	55.74	20.55	36.14	56.56	20.03	36.09	57.27	19.53	36.05	57.91	19.05	36.03	58.48	18.59	36.01	59.01
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.52	40.11	46.07
-	-	-	-	-	-	3.27	39.37	48.84	3.15	38.79	51.54	3.06	38.52	53.18	2.98	38.35	54.41
4.18	39.97	46.54	3.97	38.89	51.03	3.84	38.55	52.96	3.73	38.36	54.31	3.64	38.24	55.38	3.55	38.15	56.27
4.77	38.91	50.91	4.61	38.55	52.96	4.47	38.35	54.36	4.36	38.23	55.45	4.25	38.15	56.36	4.15	38.09	57.15
5.45	38.67	52.24	5.28	38.42	53.87	5.13	38.27	55.09	5.00	38.17	55.97	4.87	38.11	56.91	4.76	38.06	57.64
6.14	38.55	52.95	5.96	38.35	54.40	5.80	38.22	55.52	5.65	38.14	56.45	5.51	38.08	57.25	5.38	38.05	57.95
7.57	38.44	53.69	7.35	38.28	54.98	7.15	38.18	56.01	6.97	38.11	56.88	6.80	38.06	57.63	6.63	38.03	58.30
9.01	38.39	54.06	8.75	38.25	55.28	8.52	38.16	56.26	8.30	38.09	57.10	8.10	38.05	57.84	7.90	38.03	58.49
10.46	38.37	54.27	10.17	38.23	55.45	9.90	38.14	56.41	9.65	38.09	57.24	9.41	38.05	57.96	9.18	38.02	58.60
11.92	38.35	54.40	11.59	38.22	55.56	11.28	38.14	56.51	10.99	38.08	57.32	10.72	38.04	58.04	10.46	38.02	58.67
13.38	38.34	54.49	13.01	38.21	55.64	12.67	38.13	56.58	12.34	38.08	57.38	12.03	38.04	58.09	11.74	38.02	58.72
14.85	38.33	54.56	14.43	38.21	55.69	14.05	38.13	56.62	13.69	38.07	57.42	13.35	38.04	58.13	13.02	38.02	58.76
22.20	38.31	54.71	21.58	38.20	55.81	21.01	38.12	56.73	20.47	38.07	57.52	19.96	38.04	58.22	19.47	38.01	58.84
-	-	-	-	-	-	-	-	-	3.29	41.21	49.11	3.18	40.68	51.86	3.09	40.43	53.57
-	-	-	4.23	41.87	46.42	4.02	40.81	51.13	3.89	40.48	53.19	3.78	40.30	54.64	3.69	40.18	55.78
-	-	-	4.84	40.86	50.87	4.67	40.49	53.11	4.54	40.30	54.62	4.42	40.18	55.80	4.31	40.11	56.77
5.76	41.21	49.15	5.53	40.62	52.26	5.36	40.37	54.05	5.21	40.22	55.37	5.08	40.13	56.43	4.95	40.07	57.33
6.48	40.92	50.55	6.24	40.51	53.00	6.06	40.30	54.60	5.89	40.18	55.82	5.74	40.11	56.82	5.60	40.06	57.67
7.96	40.70	51.77	7.70	40.40	53.78	7.47	40.24	55.19	7.28	40.14	56.31	7.09	40.08	57.25	6.91	40.04	58.06
9.47	40.61	52.32	9.17	40.35	54.16	8.91	40.21	55.50	8.67	40.12	56.57	8.45	40.07	57.48	8.24	40.03	58.27
11.00	40.56	52.63	10.65	40.33	54.38	10.35	40.19	55.68	10.07	40.11	56.73	9.82	40.06	57.61	9.57	40.03	58.39
12.53	40.53	52.82	12.13	40.31	54.52	11.79	40.18	55.79	11.48	40.10	56.82	11.19	40.05	57.70	10.91	40.02	58.47
14.06	40.51	52.95	13.63	40.30	54.61	13.24	40.18	55.87	12.89	40.10	56.89	12.56	40.05	57.76	12.25	40.02	58.52
15.60	40.50	53.04	15.12	40.29	54.68	14.70	40.17	55.92	14.31	40.10	56.94	13.94	40.05	57.80	13.59	40.02	58.56
23.31	40.47	53.25	22.60	40.28	54.84	21.97	40.16	56.05	21.39	40.09	57.05	20.85	40.05	57.90	20.33	40.02	58.65
-	-	-	-	-	-	-	-	-	-	-	-	3.31	42.99	49.84	3.20	42.55	52.46
-	-	-	-	-	-	4.23	43.50	47.45	4.05	42.68	51.59	3.93	42.39	53.68	3.82	42.23	55.17
-	-	-	-	-	-	4.88	42.74	51.23	4.72	42.40	53.52	4.59	42.23	55.10	4.47	42.13	56.33
-	-	-	5.82	43.07	49.43	5.59	42.63	52.59	5.42	42.30	54.46	5.28	42.17	55.84	5.14	42.09	56.96
-	-	-	6.55	42.82	50.78	6.32	42.43	53.33	6.13	42.24	55.01	5.97	42.13	56.29	5.82	42.07	57.34
8.47	43.51	47.39	8.06	42.62	51.99	7.80	42.34	54.11	7.58	42.19	55.60	7.38	42.10	56.79	7.19	42.05	57.78
10.01	43.16	49.00	9.59	42.54	52.54	9.29	42.29	54.49	9.03	42.16	55.91	8.79	42.08	57.05	8.57	42.04	58.01
11.60	43.02	49.68	11.14	42.49	52.86	10.80	42.27	54.72	10.49	42.15	56.09	10.22	42.08	57.20	9.96	42.03	58.14
13.20	42.94	50.07	12.69	42.47	53.05	12.30	42.26	54.86	11.96	42.14	56.21	11.65	42.07	57.30	11.35	42.03	58.23
14.81	42.90	50.31	14.25	42.45	53.18	13.82	42.25	54.95	13.43	42.13	56.28	13.08	42.07	57.37	12.75	42.03	58.29
16.43	42.87	50.48	15.81	42.44	53.27	15.33	42.24	55.02	14.91	42.13	56.34	14.52	42.06	57.41	14.15	42.03	58.33
24.53	42.80	50.85	23.64	42.41	53.48	22.93	42.22	55.18	22.29	42.12	56.47	21.71	42.06	57.53	21.16	42.02	58.43

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(e) $\epsilon_p = 60°$; $\Gamma = 5°$; $\epsilon_r = 8.72°$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	2.30	60.23	3.0	60.20	21.06	1.08	2.03	59.80	1.20	.8955	2.85	60.21	20.89	1.07	2.03	59.80	1.17	.8949	2.90
			4.0	60.21	15.98	1.10	2.01	59.92	1.27	.8685	3.78	60.22	15.82	1.09	2.01	59.92	1.22	.8673	3.85
			5.0	60.21	13.01	1.13	2.01	59.98	1.34	.8417	4.68	60.22	12.86	1.11	2.00	59.98	1.28	.8399	4.79
			6.0	60.21	11.07	1.15	2.00	60.02	1.41	.8158	5.56	60.22	10.91	1.14	2.00	60.03	1.34	.8132	5.72
			7.0	60.22	9.69	1.18	2.00	60.05	1.48	.7909	6.43	60.22	9.53	1.16	2.00	60.05	1.40	.7875	6.63
			8.0	60.22	8.66	1.20	2.00	60.07	1.56	.7670	7.27	60.22	8.50	1.18	2.00	60.08	1.46	.7627	7.53
			10.0	60.22	7.24	1.26	2.00	60.10	1.74	.7226	8.90	60.22	7.07	1.23	1.99	60.10	1.60	.7162	9.30
			12.0	60.22	6.31	1.32	1.99	60.12	1.92	.6822	10.45	60.22	6.13	1.28	1.99	60.12	1.75	.6735	11.01
			14.0	60.22	5.65	1.38	1.99	60.13	2.12	.6457	11.92	60.22	5.47	1.33	1.99	60.14	1.91	.6344	12.68
			16.0	60.22	5.16	1.44	1.99	60.14	2.34	.6127	13.33	60.22	4.98	1.39	1.99	60.15	2.08	.5987	14.29
			18.0	60.22	4.79	1.50	1.99	60.15	2.57	.5828	14.67	60.22	4.60	1.44	1.99	60.15	2.27	.5661	15.85
			20.0	60.22	4.49	1.57	1.99	60.16	2.82	.5558	15.93	60.22	4.31	1.50	1.99	60.16	2.46	.5364	17.37
			30.0	60.22	3.66	1.92	1.99	60.17	4.34	.4551	21.32	60.22	3.45	1.81	1.99	60.18	3.64	.4222	24.17
4	4.60	60.11	3.0	60.01	22.77	1.16	4.07	59.21	1.44	.8065	2.71	60.06	22.40	1.14	4.06	59.23	1.36	.8041	2.80
			4.0	60.04	17.63	1.21	4.03	59.46	1.58	.7615	3.57	60.08	17.28	1.19	4.02	59.47	1.48	.7572	3.71
			5.0	60.06	14.66	1.27	4.01	59.59	1.75	.7189	4.39	60.09	14.31	1.24	4.01	59.60	1.61	.7125	4.59
			6.0	60.06	12.73	1.32	4.00	59.67	1.94	.6796	5.16	60.09	12.37	1.29	4.00	59.69	1.76	.6709	5.45
			7.0	60.07	11.38	1.38	4.00	59.73	2.13	.6438	5.90	60.09	11.01	1.34	4.00	59.74	1.92	.6326	6.28
			8.0	60.07	10.38	1.44	3.99	59.77	2.35	.6112	6.61	60.10	10.01	1.39	3.99	59.79	2.09	.5974	7.09
			10.0	60.07	9.03	1.57	3.99	59.83	2.83	.5550	7.91	60.10	8.64	1.50	3.99	59.84	2.47	.5356	8.63
			12.0	60.07	8.16	1.70	3.99	59.86	3.38	.5089	9.08	60.10	7.76	1.62	3.99	59.88	2.90	.4840	10.06
			14.0	60.07	7.57	1.84	3.99	59.89	4.00	.4711	10.12	60.10	7.15	1.74	3.99	59.90	3.38	.4608	11.40
			16.0	60.07	7.14	1.99	3.99	59.90	4.70	.4401	11.05	60.10	6.71	1.87	3.99	59.92	3.92	.4048	12.63
			18.0	60.07	6.83	2.14	3.99	59.92	5.48	.4145	11.88	60.10	6.39	2.00	3.99	59.94	4.51	.3765	13.78
			20.0	60.07	6.59	2.29	3.99	59.93	6.33	.3933	12.60	60.10	6.13	2.14	3.99	59.95	5.16	.3491	14.82
			30.0	60.08	5.96	3.11	3.99	59.95	11.83	.3285	15.15	60.10	5.46	2.85	3.99	59.97	9.33	.2690	18.85
6	6.90	60.04	3.0	59.80	24.61	1.25	6.11	58.60	1.70	.7307	2.58	59.91	24.01	1.22	6.10	58.65	1.57	.7257	2.70
			4.0	59.88	19.41	1.33	6.04	58.99	1.96	.6747	3.37	59.97	18.84	1.29	6.03	59.03	1.78	.6662	3.57
			5.0	59.91	16.46	1.42	6.01	59.19	2.26	.6241	4.11	59.98	15.88	1.37	6.01	59.23	2.02	.6117	4.39
			6.0	59.93	14.57	1.51	6.00	59.32	2.60	.5797	4.78	59.99	13.98	1.45	6.00	59.36	2.28	.5633	5.18
			7.0	59.93	13.27	1.61	5.99	59.40	2.98	.5412	5.41	60.00	12.66	1.53	5.99	59.46	2.58	.5206	5.93
			8.0	59.94	12.32	1.71	5.99	59.46	3.39	.5080	5.99	60.00	11.70	1.62	5.99	59.50	2.91	.4832	6.65
			10.0	59.95	11.06	1.92	5.99	59.54	4.35	.4544	7.00	60.00	10.42	1.81	5.98	59.58	3.65	.4217	7.96
			12.0	59.95	10.28	2.14	5.98	59.59	5.49	.4143	7.85	60.00	9.61	2.00	5.98	59.63	4.51	.3744	9.12
			14.0	59.95	9.76	2.37	5.98	59.62	6.79	.3839	8.56	60.01	9.07	2.21	5.98	59.67	5.51	.3379	10.15
			16.0	59.95	9.40	2.61	5.98	59.65	8.29	.3607	9.15	60.01	8.69	2.42	5.98	59.69	6.64	.3094	11.04
			18.0	59.95	9.13	2.86	5.98	59.66	9.96	.3427	9.63	60.01	8.41	2.63	5.98	59.71	7.91	.2870	11.83
			20.0	59.95	8.94	3.11	5.98	59.68	11.83	.3285	10.04	60.01	8.20	2.85	5.98	59.72	9.32	.2691	12.51
			30.0	59.95	8.44	4.40	5.98	59.71	24.00	.2896	11.27	60.01	7.66	4.00	5.98	59.75	18.51	.2187	14.78
8	9.21	60.00	3.0	59.56	26.60	1.34	8.15	57.97	2.01	.6662	2.48	59.78	25.72	1.30	8.13	58.06	1.81	.6582	2.60
			4.0	59.72	21.34	1.46	8.05	58.51	2.40	.6044	3.18	59.88	20.51	1.40	8.04	58.59	2.12	.5910	3.42
			5.0	59.78	18.42	1.58	8.02	58.78	2.87	.5511	3.83	59.91	17.58	1.51	8.01	58.86	2.49	.5321	4.20
			6.0	59.80	16.58	1.71	8.00	58.95	3.42	.5065	4.42	59.92	15.72	1.63	8.00	59.02	2.92	.4819	4.92
			7.0	59.82	15.33	1.85	7.99	59.06	4.03	.4697	4.95	59.93	14.45	1.75	7.99	59.13	3.39	.4397	5.58
			8.0	59.83	14.44	1.99	7.99	59.14	4.73	.4392	5.41	59.94	13.54	1.87	7.98	59.21	3.93	.4041	6.20
			10.0	59.84	13.28	2.30	7.98	59.24	6.35	.3929	6.19	59.94	12.35	2.14	7.98	59.32	5.17	.3490	7.30
			12.0	59.84	12.58	2.61	7.98	59.30	8.29	.3606	6.79	59.94	11.61	2.42	7.98	59.38	6.64	.3095	8.22
			14.0	59.84	12.12	2.94	7.98	59.33	10.57	.3376	7.27	59.95	11.14	2.70	7.97	59.42	8.36	.2807	8.98
			16.0	59.85	11.81	3.28	7.98	59.36	13.17	.3207	7.64	59.95	10.81	3.00	7.97	59.45	10.33	.2593	9.61
			18.0	59.85	11.59	3.62	7.97	59.38	16.12	.3082	7.93	59.95	10.57	3.30	7.97	59.46	12.55	.2431	10.14
			20.0	59.85	11.43	3.96	7.97	59.39	19.40	.2986	8.16	59.95	10.39	3.61	7.97	59.48	15.03	.2307	10.58
			30.0	59.85	11.03	5.74	7.97	59.43	40.93	.2737	8.81	59.95	9.96	5.19	7.97	59.52	31.23	.1976	11.90
10	11.52	60.01	3.0	59.30	28.72	1.44	10.20	57.28	2.35	.6113	2.32	59.65	27.54	1.39	10.17	57.45	2.08	.5999	2.50
			4.0	59.56	23.41	1.59	10.07	57.99	2.91	.5475	2.99	59.80	22.28	1.52	10.05	58.13	2.52	.5289	3.28
			5.0	59.65	20.52	1.75	10.03	58.34	3.59	.4948	3.57	59.86	19.39	1.66	10.01	58.48	3.05	.4691	4.00
			6.0	59.69	18.73	1.93	10.01	58.55	4.39	.4527	4.08	59.88	17.58	1.81	9.99	58.68	3.67	.4204	4.65
			7.0	59.71	17.54	2.11	9.99	58.69	5.32	.4192	4.51	59.89	16.37	1.97	9.98	58.82	4.37	.3809	5.24
			8.0	59.73	16.71	2.30	9.99	58.78	6.37	.3926	4.88	59.90	15.51	2.14	9.98	58.91	5.17	.3488	5.77
			10.0	59.74	15.64	2.70	9.98	58.90	8.84	.3540	5.47	59.91	14.40	2.49	9.97	59.03	7.05	.3015	6.67
			12.0	59.75	15.01	3.11	9.98	58.97	11.83	.3285	5.90	59.91	13.74	2.85	9.97	59.10	9.31	.2693	7.38
			14.0	59.76	14.61	3.53	9.97	59.01	15.34	.3110	6.22	59.92	13.31	3.22	9.97	59.15	11.95	.2469	7.94
			16.0	59.76	14.34	3.96	9.97	59.04	19.39	.2987	6.46	59.92	13.02	3.61	9.97	59.18	15.00	.2308	8.39
			18.0	59.76	14.15	4.40	9.97	59.06	23.96	.2896	6.64	59.92	12.82	3.99	9.97	59.20	18.44	.2189	8.75
			20.0	59.76	14.01	4.84	9.97	59.07	29.06	.2829	6.78	59.92	12.67	4.39	9.97	59.22	22.28	.2100	9.03
			30.0	59.77	13.67	7.09	9.97	59.11	62.61	.2658	7.16	59.92	12.30	6.39	9.96	59.26	47.49	.1871	9.84
12	13.83	60.05	3.0	58.98	31.02	1.55	12.27	56.53	2.74	.5644	2.18	59.51	29.45	1.48	12.21	56.80	2.37	.5496	2.40
			4.0	59.38	25.62	1.73	12.10	57.43	3.49	.5014	2.80	59.75	24.16	1.64	12.07	57.66	2.96	.4776	3.14
			5.0	59.51	22.76	1.93	12.04	57.87	4.43	.4512	3.32	59.83	21.30	1.82	12.02	58.08	3.68	.4193	3.80
			6.0	59.58	21.02	2.15	12.01	58.12	5.55	.4126	3.75	59.87	19.55	2.01	11.99	58.32	4.54	.3794	4.38
			7.0	59.61	19.89	2.38	12.00	58.28	6.84	.3830	4.10	59.88	18.39	2.21	11.98	58.48	5.52	.3376	4.90
			8.0	59.64	19.10	2.62	11.99	58.39	8.32	.3602	4.40	59.90	17.57	2.42	11.98	58.59	6.64	.3095	5.35
			10.0	59.66	18.11	3.11	11.98	58.52	11.84	.3284	4.85	59.91	16.54	2.85	11.97	58.73	9.29	.2694	6.08
			12.0	59.67	17.54	3.62	11.98	58.60	16.11	.3082	5.16	59.92	15.94	3.30	11.96	58.81	12.51	.2434	6.63
			14.0	59.68	17.18	4.13	11.97	58.65	21.14	.2947	5.38	59.92	15.56	3.76	11.96	58.86	16.29	.2258	7.05
			16.0	59.68	16.94	4.66	11.97	58.68	26.93	.2854	5.54	59.92	15.30	4.22	11.96	58.89	20.64	.2134	7.37
			18.0	59.69	16.77	5.19	11.97	58.70	33.49	.2787	5.66	59.92	15.12	4.70	11.96	58.92	25.56	.2045	7.61
			20.0	59.69	16.65	5.73	11.97	58.72	40.82	.2738	5.75	59.93	14.99	5.17	11.96	58.93	31.06	.1978	7.81
			30.0	59.70	16.35	8.45	11.97	58.75	89.00	.2614	5.99	59.93	14.67	7.60	11.96	58.97	67.21	.1811	8.33
14	16.13	60.14	3.0	58.57	33.50	1.56	14.36	55.66	3.18	.5242	2.05	59.37	31.49	1.57	14.26	56.11	2.70	.5061	2.29
			4.0	59.18	27.97	1.88	14.13	56.81	4.15	.4638	2.62	59.72	26.13	1.76	14.08	57.16	3.45	.4351	2.99
			5.0	59.37	25.13	2.12	14.06	57.34	5.39	.4171	3.08	59.83	23.31	1.98	14.02	57.65	4.40	.3795	3.60
			6.0	59.47	23.44	2.39	14.02	57.63	6.87	.3824	3.44	59.88	21.61	2.21	14.00	57.94	5.53	.3374	4.12
			7.0	59.52	22.35	2.66	14.01	57.82	8.61	.3567	3.73	59.90	20.49	2.45	13.98	58.12	6.84	.3054	4.57
			8.0	59.55	21.60	2.95	14.00	57.94	10.60	.3373	3.97	59.92	19.73	2.70	13.97	58.25	8.34	.2810	4.94
			10.0	59.58	20.68	3.53	13.98	58.09	15.35	.3110	4.31	59.94	18.77	3.22	13.96	58.40	11.91	.2472	5.54
			12.0	59.60	20.15	4.13	13.98	58.18	21.13	.2948	4.54	59.95	18.21	3.75	13.96	58.49	16.24	.2259	5.97
			14.0	59.61	19.82	4.75	13.97	58.23	27.95	.2842	4.70	59.95	17.86	4.29	13.96	58.54	21.35	.2118	6.28
			16.0	59.62	19.61	5.37	13.97	58.27	35.80	.2769	4.81	59.96	17.63	4.85	13.96	58.58	27.24	.2021	6.51
			18.0	59.62	19.45	5.99	13.97	58.29	44.71	.2718	4.89	59.96	17.47	5.40	13.96	58.60	33.91	.1952	6.69
			20.0	59.63	19.34	6.63	13.97	58.31	54.65	.2680	4.95	59.96	17.35	5.97	13.95	58.62	41.35	.1901	6.82
			30.0	59.63	19.08	9.81	13.97	58.35	120.1	.2587	5.11	59.96	17.07	8.81	13.95	58.66	90.33	.1774	7.17

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(e) $\epsilon_p = 60°$; $\Gamma = 5°$; $\epsilon_r = 8.72°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.07	2.03	59.80	1.07	2.03	59.80	1.07	2.03	59.80	1.06	2.03	59.81	1.06	2.03	59.81	1.06	2.03	59.81
1.09	2.01	59.92	1.09	2.01	59.92	1.08	2.01	59.92	1.08	2.01	59.92	1.08	2.01	59.92	1.08	2.01	59.92
1.11	2.00	59.99	1.11	2.00	59.99	1.11	2.00	59.99	1.10	2.00	59.99	1.10	2.00	59.99	1.10	2.00	59.99
1.13	2.00	60.03	1.13	2.00	60.03	1.13	2.00	60.03	1.12	2.00	60.03	1.12	2.00	60.03	1.12	2.00	60.03
1.16	2.00	60.06	1.15	2.00	60.06	1.15	2.00	60.06	1.14	2.00	60.06	1.14	2.00	60.06	1.14	2.00	60.06
1.18	2.00	60.08	1.17	2.00	60.08	1.17	2.00	60.08	1.17	2.00	60.08	1.16	2.00	60.08	1.16	2.00	60.08
1.23	1.99	60.11	1.22	1.99	60.11	1.22	1.99	60.11	1.21	1.99	60.11	1.21	1.99	60.11	1.20	1.99	60.11
1.28	1.99	60.12	1.27	1.99	60.13	1.26	1.99	60.13	1.26	1.99	60.13	1.25	1.99	60.13	1.24	1.99	60.13
1.33	1.99	60.14	1.32	1.99	60.14	1.31	1.99	60.14	1.30	1.99	60.14	1.30	1.99	60.14	1.29	1.99	60.14
1.38	1.99	60.15	1.37	1.99	60.15	1.36	1.99	60.15	1.35	1.99	60.15	1.34	1.99	60.15	1.33	1.99	60.15
1.43	1.99	60.16	1.42	1.99	60.16	1.41	1.99	60.16	1.40	1.99	60.16	1.39	1.99	60.16	1.38	1.99	60.16
1.49	1.99	60.16	1.48	1.99	60.16	1.47	1.99	60.16	1.45	1.99	60.16	1.44	1.99	60.16	1.43	1.99	60.16
1.79	1.99	60.18	1.77	1.99	60.18	1.75	1.99	60.18	1.73	1.99	60.18	1.71	1.99	60.18	1.69	1.99	60.18
1.14	4.06	59.23	1.14	4.06	59.24	1.13	4.06	59.24	1.13	4.06	59.24	1.13	4.06	59.25	1.12	4.06	59.25
1.18	4.02	59.48	1.18	4.02	59.48	1.18	4.02	59.48	1.17	4.02	59.48	1.17	4.02	59.49	1.16	4.02	59.49
1.23	4.01	59.61	1.22	4.01	59.61	1.22	4.01	59.61	1.21	4.01	59.62	1.21	4.01	59.62	1.20	4.01	59.62
1.28	4.00	59.69	1.27	4.00	59.69	1.27	4.00	59.70	1.26	4.00	59.70	1.25	4.00	59.70	1.25	4.00	59.70
1.33	3.99	59.75	1.32	3.99	59.75	1.31	3.99	59.75	1.31	3.99	59.76	1.30	3.99	59.76	1.29	3.99	59.76
1.38	3.99	59.79	1.37	3.99	59.79	1.36	3.99	59.79	1.35	3.99	59.80	1.35	3.99	59.80	1.34	3.99	59.80
1.49	3.99	59.85	1.48	3.99	59.85	1.47	3.99	59.85	1.45	3.99	59.85	1.44	3.99	59.86	1.43	3.99	59.86
1.61	3.99	59.88	1.59	3.99	59.89	1.58	3.99	59.89	1.56	3.99	59.89	1.55	3.99	59.89	1.53	3.99	59.90
1.73	3.99	59.91	1.71	3.99	59.91	1.69	3.99	59.91	1.67	3.99	59.92	1.65	3.99	59.92	1.63	3.99	59.92
1.85	3.99	59.93	1.83	3.99	59.93	1.81	3.99	59.93	1.78	3.99	59.93	1.76	3.99	59.94	1.74	3.99	59.94
1.98	3.99	59.94	1.95	3.99	59.94	1.93	3.99	59.94	1.90	3.99	59.95	1.88	3.99	59.95	1.85	3.99	59.95
2.11	3.99	59.95	2.08	3.99	59.95	2.05	3.99	59.96	2.02	3.99	59.96	2.00	3.99	59.96	1.97	3.99	59.97
2.81	3.99	59.98	2.76	3.99	59.98	2.71	3.99	59.98	2.67	3.99	59.99	2.62	3.98	59.99	2.58	3.98	59.99
1.22	6.10	58.66	1.21	6.09	58.67	1.21	6.09	58.68	1.20	6.09	58.68	1.20	6.09	58.69	1.19	6.09	58.70
1.28	6.03	59.04	1.28	6.03	59.04	1.27	6.03	59.05	1.26	6.03	59.06	1.26	6.03	59.07	1.25	6.03	59.07
1.36	6.01	59.24	1.35	6.01	59.25	1.34	6.01	59.25	1.33	6.01	59.26	1.32	6.01	59.27	1.32	6.01	59.27
1.44	6.00	59.36	1.43	6.00	59.37	1.42	6.00	59.38	1.41	6.00	59.38	1.40	6.00	59.39	1.39	5.99	59.40
1.52	5.99	59.45	1.51	5.99	59.46	1.50	5.99	59.46	1.48	5.99	59.47	1.47	5.99	59.48	1.46	5.99	59.48
1.61	5.99	59.51	1.59	5.99	59.52	1.58	5.99	59.52	1.56	5.99	59.53	1.55	5.99	59.54	1.53	5.99	59.54
1.79	5.98	59.59	1.77	5.98	59.60	1.75	5.98	59.61	1.73	5.98	59.61	1.71	5.98	59.62	1.69	5.98	59.63
1.98	5.98	59.64	1.95	5.98	59.65	1.93	5.98	59.66	1.90	5.98	59.66	1.88	5.98	59.67	1.85	5.98	59.68
2.18	5.98	59.67	2.15	5.98	59.68	2.12	5.98	59.69	2.09	5.98	59.70	2.06	5.98	59.71	2.03	5.98	59.71
2.38	5.98	59.70	2.34	5.98	59.71	2.31	5.98	59.71	2.27	5.98	59.72	2.24	5.98	59.73	2.20	5.98	59.74
2.59	5.98	59.72	2.55	5.98	59.72	2.51	5.98	59.73	2.47	5.98	59.74	2.43	5.98	59.75	2.39	5.98	59.76
2.81	5.98	59.73	2.76	5.98	59.74	2.71	5.98	59.75	2.67	5.98	59.75	2.62	5.98	59.76	2.58	5.98	59.77
3.93	5.98	59.76	3.85	5.98	59.77	3.78	5.98	59.78	3.71	5.98	59.79	3.63	5.98	59.80	3.56	5.98	59.81
1.29	8.13	58.08	1.29	8.12	58.10	1.28	8.12	58.11	1.27	8.12	58.13	1.27	8.12	58.14	1.26	8.11	58.16
1.39	8.04	58.60	1.38	8.04	58.61	1.37	8.04	58.63	1.36	8.04	58.64	1.35	8.03	58.66	1.34	8.03	58.67
1.50	8.01	58.87	1.49	8.01	58.89	1.47	8.01	58.90	1.46	8.01	58.91	1.45	8.00	58.93	1.44	8.00	58.94
1.61	7.99	59.04	1.59	7.99	59.05	1.58	7.99	59.06	1.56	7.99	59.08	1.55	7.99	59.09	1.53	7.99	59.10
1.73	7.99	59.15	1.71	7.99	59.16	1.69	7.99	59.18	1.67	7.98	59.19	1.65	7.98	59.20	1.64	7.98	59.22
1.85	7.98	59.23	1.83	7.98	59.24	1.81	7.98	59.25	1.79	7.98	59.27	1.76	7.98	59.28	1.74	7.98	59.30
2.11	7.98	59.33	2.08	7.98	59.34	2.05	7.98	59.36	2.02	7.98	59.37	2.00	7.97	59.39	1.97	7.97	59.40
2.38	7.97	59.39	2.34	7.97	59.41	2.31	7.97	59.42	2.27	7.97	59.44	2.24	7.97	59.45	2.20	7.97	59.46
2.66	7.97	59.43	2.62	7.97	59.45	2.58	7.97	59.46	2.53	7.97	59.48	2.49	7.97	59.49	2.45	7.97	59.51
2.95	7.97	59.46	2.90	7.97	59.48	2.85	7.97	59.49	2.80	7.97	59.51	2.75	7.97	59.52	2.70	7.97	59.54
3.24	7.97	59.48	3.19	7.97	59.50	3.13	7.97	59.51	3.07	7.97	59.53	3.02	7.97	59.54	2.96	7.97	59.56
3.54	7.97	59.50	3.48	7.97	59.51	3.41	7.97	59.53	3.35	7.97	59.54	3.29	7.97	59.56	3.22	7.97	59.57
5.09	7.97	59.53	4.99	7.97	59.55	4.89	7.97	59.56	4.79	7.97	59.58	4.69	7.97	59.60	4.59	7.97	59.61
1.38	10.16	57.48	1.37	10.16	57.51	1.36	10.15	57.54	1.35	10.15	57.56	1.34	10.14	57.59	1.33	10.14	57.62
1.50	10.05	58.16	1.49	10.05	58.18	1.48	10.04	58.21	1.47	10.04	58.23	1.45	10.04	58.25	1.44	10.04	58.27
1.64	10.01	58.50	1.63	10.01	58.52	1.61	10.01	58.55	1.59	10.00	58.57	1.58	10.00	58.59	1.56	10.00	58.61
1.79	9.99	58.71	1.77	9.99	58.73	1.75	9.99	58.75	1.73	9.99	58.77	1.71	9.99	58.80	1.69	9.98	58.82
1.95	9.98	58.84	1.92	9.98	58.86	1.90	9.98	58.89	1.87	9.98	58.91	1.85	9.98	58.93	1.83	9.98	58.95
2.11	9.98	58.94	2.08	9.98	58.96	2.05	9.97	58.98	2.02	9.97	59.01	2.00	9.97	59.03	1.97	9.97	59.05
2.45	9.97	59.06	2.41	9.97	59.08	2.37	9.97	59.10	2.34	9.97	59.13	2.30	9.97	59.15	2.26	9.97	59.17
2.80	9.97	59.13	2.76	9.97	59.15	2.71	9.97	59.18	2.66	9.97	59.20	2.62	9.97	59.23	2.57	9.96	59.25
3.17	9.97	59.17	3.11	9.97	59.20	3.06	9.97	59.22	3.00	9.96	59.25	2.95	9.96	59.27	2.89	9.96	59.30
3.54	9.97	59.21	3.48	9.97	59.23	3.41	9.96	59.26	3.35	9.96	59.28	3.28	9.96	59.31	3.22	9.96	59.33
3.92	9.97	59.23	3.85	9.96	59.25	3.77	9.96	59.28	3.70	9.96	59.30	3.63	9.96	59.33	3.55	9.96	59.35
4.30	9.96	59.24	4.22	9.96	59.27	4.14	9.96	59.29	4.05	9.96	59.32	3.97	9.96	59.35	3.89	9.96	59.37
6.26	9.96	59.28	6.14	9.96	59.31	6.01	9.96	59.34	5.88	9.96	59.36	5.75	9.96	59.39	5.63	9.96	59.41
1.46	12.20	56.85	1.45	12.19	56.90	1.44	12.18	56.94	1.43	12.18	56.99	1.41	12.17	57.03	1.40	12.16	57.07
1.62	12.06	57.70	1.60	12.06	57.74	1.59	12.05	57.77	1.57	12.05	57.81	1.56	12.04	57.85	1.54	12.04	57.88
1.80	12.01	58.12	1.77	12.01	58.15	1.75	12.01	58.19	1.73	12.00	58.22	1.71	12.00	58.26	1.69	12.00	58.29
1.98	11.99	58.36	1.96	11.99	58.40	1.93	11.99	58.43	1.90	11.98	58.47	1.88	11.98	58.50	1.85	11.98	58.54
2.18	11.98	58.52	2.15	11.98	58.56	2.11	11.98	58.59	2.08	11.97	58.63	2.05	11.97	58.66	2.02	11.97	58.70
2.38	11.97	58.63	2.34	11.97	58.67	2.31	11.97	58.70	2.27	11.97	58.74	2.24	11.97	58.77	2.20	11.96	58.81
2.80	11.97	58.77	2.75	11.96	58.80	2.71	11.96	58.84	2.66	11.96	58.88	2.61	11.96	58.91	2.57	11.96	58.95
3.24	11.96	58.85	3.18	11.96	58.88	3.12	11.96	58.92	3.06	11.96	58.96	3.01	11.96	58.99	2.95	11.96	59.03
3.69	11.96	58.90	3.62	11.96	58.93	3.55	11.96	58.97	3.48	11.96	59.01	3.41	11.96	59.05	3.35	11.96	59.08
4.14	11.96	58.93	4.06	11.96	58.97	3.98	11.96	59.01	3.90	11.96	59.04	3.83	11.96	59.08	3.75	11.96	59.12
4.61	11.96	58.95	4.51	11.96	58.99	4.42	11.96	59.03	4.33	11.96	59.07	4.25	11.96	59.11	4.16	11.95	59.14
5.07	11.96	58.97	4.97	11.96	59.01	4.87	11.96	59.05	4.77	11.96	59.09	4.67	11.96	59.12	4.57	11.95	59.16
7.44	11.96	59.01	7.29	11.96	59.05	7.14	11.96	59.09	6.98	11.96	59.13	6.83	11.95	59.17	6.68	11.95	59.21
1.55	14.25	56.18	1.54	14.24	56.25	1.52	14.22	56.32	1.51	14.21	56.39	1.49	14.20	56.45	1.48	14.19	56.51
1.74	14.07	57.22	1.72	14.07	57.27	1.70	14.06	57.33	1.68	14.05	57.38	1.66	14.05	57.44	1.64	14.04	57.49
1.95	14.02	57.71	1.93	14.01	57.76	1.90	14.01	57.82	1.88	14.00	57.87	1.85	14.00	57.92	1.83	13.99	57.97
2.18	13.99	58.00	2.15	13.99	58.05	2.11	13.98	58.10	2.08	13.98	58.15	2.05	13.98	58.20	2.02	13.97	58.25
2.41	13.98	58.18	2.38	13.97	58.23	2.34	13.97	58.28	2.30	13.97	58.33	2.26	13.97	58.38	2.23	13.96	58.43
2.66	13.97	58.30	2.61	13.97	58.35	2.57	13.96	58.41	2.53	13.96	58.46	2.48	13.96	58.51	2.44	13.96	58.56
3.16	13.96	58.45	3.10	13.96	58.51	3.05	13.96	58.56	2.99	13.96	58.61	2.94	13.95	58.66	2.88	13.95	58.71
3.68	13.96	58.54	3.61	13.96	58.60	3.54	13.95	58.65	3.47	13.95	58.70	3.41	13.95	58.75	3.34	13.95	58.80
4.21	13.96	58.60	4.13	13.95	58.65	4.05	13.95	58.70	3.97	13.95	59.76	3.89	13.95	58.81	3.81	13.95	58.86
4.75	13.95	58.63	4.66	13.95	58.69	4.56	13.95	58.74	4.47	13.95	58.79	4.38	13.95	58.85	4.28	13.95	58.90
5.30	13.95	58.66	5.19	13.95	58.71	5.08	13.95	58.77	4.98	13.95	58.82	4.87	13.95	58.87	4.77	13.95	58.93
5.85	13.95	58.68	5.73	13.95	58.73	5.61	13.95	58.79	5.49	13.95	58.84	5.37	13.95	58.89	5.25	13.95	58.94
8.62	13.95	58.72	8.44	13.95	58.78	8.26	13.95	58.83	8.08	13.95	58.88	7.90	13.95	58.94	7.72	13.95	58.99

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(e) $\epsilon_p = 60°$; $\Gamma = 5°$; $\epsilon_r = 8.72°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$ θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	$\gamma_e = \gamma_\infty = 1.40$ θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	18.43	67.27	3.0	58.24	36.21	1.77	16.49	54.64	3.68	.4894	1.92	19.20	33.64	1.66	16.33	55.34	3.06	.4683	2.19
			4.0	58.93	30.48	2.03	16.18	56.11	4.90	.4329	2.44	19.69	28.21	1.89	16.10	56.61	4.00	.3998	2.85
			5.0	59.21	27.63	2.32	16.09	56.74	6.48	.3902	2.84	19.84	25.41	2.15	16.03	57.20	5.20	.3477	3.40
			6.0	59.34	25.98	2.63	16.04	57.08	8.39	.3594	3.15	19.91	23.75	2.42	16.00	57.53	6.65	.3094	3.87
			7.0	59.41	24.92	2.95	16.02	57.30	10.63	.3370	3.39	19.94	22.68	2.70	15.98	57.77	8.33	.2810	4.25
			8.0	59.46	24.21	3.28	16.01	57.44	13.21	.3205	3.58	19.97	21.95	2.99	15.97	57.87	10.27	.2598	4.57
			10.0	59.50	23.33	3.96	15.99	57.61	19.37	.2987	3.85	19.99	21.05	3.59	15.96	58.04	14.88	.2313	5.05
			12.0	59.53	22.84	4.66	15.98	57.70	26.89	.2855	4.02	20.00	20.53	4.21	15.96	58.13	20.50	.2137	5.39
			14.0	59.54	22.54	5.37	15.98	57.76	35.77	.2770	4.14	20.01	20.21	4.84	15.95	58.19	27.14	.2023	5.62
			16.0	59.55	22.34	6.08	15.98	57.80	46.00	.2712	4.22	20.02	20.00	5.47	15.95	58.23	34.78	.1945	5.80
			18.0	59.56	22.20	6.80	15.98	57.82	57.60	.2671	4.27	20.02	19.86	6.11	15.95	58.26	43.44	.1890	5.92
			20.0	59.56	22.10	7.52	15.97	57.84	70.55	.2642	4.32	20.02	19.75	6.76	15.95	58.28	53.12	.1849	6.02
			30.0	59.58	21.86	11.17	15.97	57.89	155.8	.2569	4.42	20.03	19.49	10.01	15.95	58.32	116.8	.1750	6.27
18	20.73	60.43	3.0	57.29	39.24	1.90	18.70	53.37	4.25	.4589	1.78	18.99	35.94	1.76	18.42	54.47	3.45	.4355	2.08
			4.0	58.61	33.16	2.19	18.25	55.28	5.74	.4074	2.27	19.66	30.38	2.02	18.13	56.02	4.61	.3703	2.70
			5.0	59.11	30.28	2.52	18.13	56.04	7.70	.3688	2.62	19.87	27.60	2.32	18.04	56.70	6.09	.3220	3.21
			6.0	59.19	28.64	2.88	18.07	56.45	10.09	.3415	2.89	19.96	25.97	2.63	18.01	57.07	7.89	.2873	3.62
			7.0	59.29	27.61	3.24	18.04	56.69	12.91	.3221	3.08	20.01	24.94	2.95	17.99	57.30	10.00	.2623	3.95
			8.0	59.35	26.91	3.62	18.03	56.86	16.15	.3081	3.24	20.04	24.24	3.28	17.97	57.46	12.42	.2439	4.22
			10.0	59.41	26.08	4.40	18.01	57.05	23.92	.2897	3.45	20.07	23.39	3.97	17.96	57.64	18.22	.2196	4.61
			12.0	59.45	25.61	5.19	18.00	57.15	33.40	.2788	3.58	20.09	22.90	4.67	17.96	57.74	25.28	.2049	4.88
			14.0	59.47	25.32	5.99	17.99	57.22	44.60	.2718	3.66	20.10	22.61	5.38	17.95	57.81	33.62	.1954	5.06
			16.0	59.48	25.13	6.80	17.99	57.26	57.52	.2672	3.72	20.10	22.41	6.10	17.95	57.85	43.24	.1891	5.19
			18.0	59.49	25.00	7.61	17.99	57.29	72.16	.2639	3.77	20.11	22.27	6.82	17.95	57.88	54.14	.1846	5.28
			20.0	59.50	24.91	8.42	17.99	57.31	88.51	.2615	3.80	20.11	22.18	7.55	17.95	57.90	66.31	.1813	5.36
			30.0	59.51	24.69	12.53	17.98	57.36	196.1	.2557	3.88	20.12	21.94	11.21	17.95	57.95	146.4	.1739	5.54
20	23.01	67.64	3.0	56.08	42.83	2.04	21.05	51.62	4.95	.4310	1.62	18.71	38.41	1.86	20.54	53.45	3.89	.4066	1.97
			4.0	58.17	36.06	2.35	20.36	54.27	6.68	.3861	2.09	19.63	32.66	2.16	20.17	55.35	5.27	.3455	2.56
			5.0	58.74	33.09	2.73	20.19	55.22	9.07	.3515	2.41	19.90	29.87	2.49	20.06	56.14	7.07	.3010	3.02
			6.0	58.99	31.43	3.13	20.12	55.75	12.00	.3274	2.63	20.02	28.27	2.84	20.02	56.57	9.26	.2698	3.38
			7.0	59.12	30.41	3.54	20.08	56.09	15.46	.3106	2.80	20.09	27.27	3.21	19.99	56.82	11.83	.2477	3.66
			8.0	59.20	29.73	3.97	20.06	56.28	19.44	.2985	2.93	20.13	26.59	3.58	19.98	57.00	14.80	.2316	3.89
			10.0	59.29	28.92	4.84	20.03	56.40	29.00	.2830	3.09	20.17	25.78	4.35	19.97	57.20	21.90	.2107	4.21
			12.0	59.34	28.47	5.72	20.02	56.51	40.67	.2738	3.20	20.19	25.32	5.13	19.96	57.31	30.56	.1983	4.43
			14.0	59.37	28.19	6.61	20.01	56.59	54.47	.2681	3.28	20.20	25.04	5.92	19.95	57.38	40.79	.1904	4.57
			16.0	59.38	28.01	7.51	20.01	56.63	70.78	.2642	3.31	20.21	24.85	6.72	19.95	57.43	52.59	.1851	4.67
			18.0	59.40	27.89	8.42	20.01	56.67	88.41	.2615	3.34	20.22	24.72	7.53	19.95	57.46	65.96	.1814	4.74
			20.0	59.41	27.80	9.33	20.01	56.69	108.6	.2595	3.36	20.22	24.63	8.34	19.95	57.48	80.90	.1787	4.80
			30.0	59.43	27.58	13.39	20.00	56.74	241.1	.2548	3.42	20.23	24.41	12.40	19.95	57.53	179.2	.1721	4.93
22	25.29	60.88	3.0	53.25	46.09	2.23	24.00	48.31	5.98	.4012	1.42	18.28	41.10	1.97	22.72	52.21	4.37	.3809	1.85
			4.0	57.52	39.26	2.53	23.69	52.09	7.77	.3678	1.91	19.57	35.05	2.30	22.22	54.58	5.99	.3246	2.47
			5.0	58.35	36.10	2.95	23.28	54.21	10.61	.3372	2.20	19.93	32.24	2.67	22.09	55.51	8.13	.2838	2.89
			6.0	58.72	34.40	3.39	23.19	54.80	14.12	.3161	2.40	20.09	30.65	3.06	22.03	56.00	10.75	.2557	3.15
			7.0	58.89	33.35	3.95	23.14	55.15	18.29	.3015	2.54	20.17	29.66	3.46	22.01	56.29	13.84	.2361	3.40
			8.0	59.00	32.68	4.32	23.11	55.37	23.10	.2911	2.64	20.23	29.01	3.88	21.99	56.48	17.39	.2220	3.59
			10.0	59.12	31.88	5.28	23.07	55.62	34.63	.2778	2.79	20.28	28.22	4.73	21.97	56.70	25.91	.2039	3.86
			12.0	59.18	31.43	6.26	23.06	55.76	48.73	.2701	2.86	20.31	27.78	5.59	21.96	56.83	35.32	.1933	4.03
			14.0	59.22	31.16	7.24	23.05	55.86	65.39	.2652	2.91	20.33	27.51	6.47	21.96	56.90	48.62	.1866	4.14
			16.0	59.25	30.98	8.24	23.04	55.89	84.62	.2620	2.95	20.34	27.33	7.35	21.96	56.95	63.80	.1821	4.22
			18.0	59.26	30.85	9.23	23.04	55.93	1.044	.2597	2.97	20.35	27.21	8.23	21.95	56.98	80.79	.1790	4.28
			20.0	59.27	30.78	10.23	23.04	55.96	1.258	.2581	2.99	20.36	27.12	9.12	21.95	57.01	96.83	.1767	4.32
			30.0	59.30	30.67	15.26	23.03	56.02	2.364	.2542	3.04	20.36	26.99	13.68	21.95	57.06	215.0	.1712	4.43
24	27.55	61.16	3.0	-	-	-	-	-	-	-	-	17.59	44.15	2.09	25.01	50.58	4.93	.3575	1.72
			4.0	56.44	42.98	2.73	26.84	51.23	9.05	.3517	1.73	19.46	37.57	2.44	24.29	53.68	6.77	.3067	2.26
			5.0	57.76	39.40	3.17	26.44	53.49	12.35	.3253	2.00	19.95	34.70	2.85	24.13	54.78	9.28	.2695	2.64
			6.0	58.27	37.58	3.66	26.30	54.68	16.50	.3064	2.17	20.16	33.11	3.28	24.06	55.34	12.36	.2443	2.93
			7.0	58.53	36.51	4.16	26.22	54.20	21.44	.2941	2.29	20.27	32.13	3.72	24.02	55.68	16.00	.2268	3.14
			8.0	58.69	35.81	4.68	26.18	54.37	27.15	.2851	2.38	20.33	31.48	4.18	24.00	55.89	20.20	.2144	3.31
			10.0	58.86	34.98	5.73	26.14	54.68	40.87	.2737	2.49	20.40	30.71	5.11	23.98	56.14	30.26	.1986	3.53
			12.0	58.96	34.53	6.80	26.12	54.84	57.64	.2671	2.56	20.44	30.29	6.06	23.97	56.28	42.56	.1894	3.67
			14.0	59.00	34.26	7.88	26.11	54.94	77.46	.2630	2.60	20.46	30.03	7.01	23.97	56.36	57.09	.1836	3.76
			16.0	59.03	34.09	8.97	26.10	55.00	100.3	.2603	2.63	20.48	29.86	7.96	23.96	56.41	73.85	.1798	3.82
			18.0	59.05	33.97	10.06	26.09	55.05	126.3	.2583	2.65	20.49	29.74	8.93	23.96	56.45	92.84	.1771	3.87
			20.0	59.07	33.88	11.15	26.09	55.08	155.2	.2570	2.67	20.49	29.65	9.90	23.96	56.48	114.1	.1752	3.91
			30.0	59.11	33.67	16.63	26.08	55.15	345.8	.2536	2.70	20.51	29.45	14.75	23.95	56.54	253.7	.1709	3.99
26	29.80	61.48	3.0	-	-	-	-	-	-	-	-	16.24	47.94	2.23	27.59	48.07	5.62	.3347	1.56
			4.0	53.91	48.23	2.98	27.66	47.86	10.88	.3351	1.49	19.27	40.27	2.59	26.40	52.59	7.63	.2913	2.11
			5.0	56.74	43.19	3.42	26.72	51.10	14.40	.3149	1.79	19.93	37.27	3.03	26.18	53.93	10.53	.2576	2.46
			6.0	57.56	41.11	3.95	26.48	52.18	19.22	.2991	1.95	20.20	35.66	3.50	26.10	54.59	14.11	.2348	2.72
			7.0	57.96	39.93	4.49	26.37	52.75	25.00	.2880	2.06	20.36	34.68	4.98	26.05	54.97	18.34	.2192	2.90
			8.0	58.19	39.18	5.05	26.31	53.10	31.70	.2803	2.13	20.43	34.03	4.48	26.03	55.22	23.22	.2082	3.04
			10.0	58.44	38.31	6.20	26.25	53.49	47.42	.2724	2.23	20.52	33.27	5.49	26.00	55.50	34.94	.1944	3.23
			12.0	58.57	37.84	7.36	26.22	53.69	67.63	.2688	2.29	20.57	32.85	6.51	25.99	55.65	49.26	.1861	3.35
			14.0	58.64	37.56	8.53	26.20	53.81	90.84	.2612	2.32	20.60	32.59	7.54	25.98	55.74	66.19	.1817	3.43
			16.0	58.69	37.37	9.71	26.19	53.89	117.7	.2589	2.35	20.62	32.42	8.58	25.98	55.80	86.71	.1780	3.48
			18.0	58.72	37.24	10.89	26.18	53.94	148.2	.2572	2.36	20.63	32.31	9.62	25.97	55.84	107.8	.1747	3.52
			20.0	58.74	37.16	12.08	26.18	53.98	182.3	.2561	2.38	20.64	32.23	10.67	25.97	55.87	132.4	.1740	3.54
			30.0	58.79	36.95	18.03	26.16	54.07	406.6	.2532	2.41	20.66	32.04	15.91	25.97	55.94	295.3	.1700	3.61
28	32.74	61.84	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	16.93	43.20	2.74	28.58	51.21	8.58	.2778	1.45
			5.0	54.33	48.46	3.74	28.60	47.70	17.27	.3044	1.53	19.84	39.09	3.21	28.26	52.91	11.68	.2474	1.98
			6.0	56.22	45.33	4.27	28.37	49.92	22.63	.2921	1.71	20.21	36.32	3.72	28.15	53.70	15.28	.2269	2.31
			7.0	56.95	43.86	4.85	28.26	50.83	29.18	.2828	1.82	20.40	34.81	4.24	28.10	54.14	20.84	.2129	2.58
			8.0	57.33	42.98	5.45	28.21	51.34	36.96	.2761	1.89	20.51	33.86	4.78	28.08	54.43	26.46	.2032	2.80
			10.0	57.73	41.99	6.69	28.16	51.88	55.73	.2677	1.98	20.63	33.05	5.86	28.07	54.75	39.94	.1909	2.96
			12.0	57.92	41.46	7.95	28.14	52.16	78.73	.2628	2.03	20.69	32.68	6.96	28.06	54.93	56.43	.1838	3.06
			14.0	58.03	41.15	9.21	28.13	52.32	105.9	.2598	2.06	20.73	32.23	8.08	28.06	55.03	76.91	.1794	3.12
			16.0	58.10	40.95	10.49	28.13	52.42	137.3	.2577	2.08	20.75	31.96	9.19	28.06	55.10	98.29	.1765	3.17
			18.0	58.14	40.82	11.77	28.13	52.49	172.0	.2563	2.10	20.77	34.95	10.41	27.99	55.14	122.0	.1745	3.20
			20.0	58.18	40.72	13.05	28.12	52.54	212.7	.2553	2.11	20.78	34.67	11.43	27.99	55.18	152.3	.1730	3.22
			30.0	58.25	40.49	19.48	28.10	52.66	474.4	.2529	2.13	20.80	34.67	17.07	27.98	55.25	338.7	.1695	3.27

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(e) $\epsilon_p = 60°$; $\Gamma = 5°$; $\epsilon_r = 8.72°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.64	16.31	55.45	1.62	16.29	55.55	1.61	16.27	55.65	1.59	16.25	55.75	1.57	16.23	55.85	1.55	16.21	55.94
1.87	16.09	56.70	1.84	16.08	56.78	1.82	16.07	56.86	1.80	16.06	56.94	1.77	16.05	57.02	1.75	16.04	57.09
2.11	16.02	57.28	2.08	16.02	57.35	2.05	16.01	57.43	2.02	16.00	57.50	2.00	16.00	57.57	1.97	15.99	57.64
2.38	15.99	57.60	2.34	15.99	57.68	2.30	15.98	57.75	2.27	15.98	57.82	2.23	15.97	57.89	2.20	15.97	57.96
2.65	15.98	57.81	2.61	15.97	57.88	2.57	15.97	57.95	2.52	15.96	58.03	2.48	15.96	58.10	2.44	15.96	58.16
2.94	15.97	57.95	2.89	15.96	58.02	2.84	15.96	58.09	2.79	15.96	58.16	2.74	15.95	58.23	2.69	15.95	58.30
3.53	15.96	58.11	3.46	15.96	58.19	3.39	15.95	58.26	3.33	15.95	58.33	3.26	15.95	58.40	3.20	15.94	58.47
4.13	15.95	58.21	4.05	15.95	58.28	3.97	15.95	58.36	3.89	15.95	58.43	3.81	15.94	58.50	3.73	15.94	58.57
4.74	15.95	58.27	4.65	15.95	58.34	4.55	15.95	58.42	4.46	15.94	58.49	4.37	15.94	58.56	4.27	15.94	58.63
5.36	15.95	58.31	5.25	15.95	58.38	5.15	15.94	58.46	5.04	15.94	58.53	4.93	15.94	58.60	4.82	15.94	58.67
5.99	15.95	58.33	5.87	15.95	58.41	5.74	15.94	58.48	5.62	15.94	58.56	5.50	15.94	58.63	5.38	15.94	58.70
6.62	15.95	58.35	6.48	15.95	58.43	6.34	15.94	58.50	6.21	15.94	58.58	6.07	15.94	58.65	5.94	15.94	58.72
9.80	15.95	58.40	9.59	15.94	58.48	9.38	15.94	58.55	9.18	15.94	58.62	8.97	15.94	58.70	8.77	15.94	58.77
1.74	18.38	54.63	1.72	18.35	54.78	1.69	18.32	54.93	1.67	18.29	55.07	1.65	18.27	55.20	1.63	18.24	55.33
1.99	18.11	56.14	1.97	18.10	56.25	1.94	18.08	56.36	1.91	18.07	55.47	1.88	18.06	56.58	1.86	18.05	56.68
2.28	18.03	56.81	2.24	18.02	56.91	2.21	18.01	57.01	2.18	18.00	57.11	2.14	17.99	57.21	2.11	17.99	57.31
2.58	18.00	57.18	2.54	17.99	57.28	2.50	17.98	57.38	2.46	17.97	57.47	2.41	17.97	57.57	2.37	17.96	57.66
2.90	17.98	57.41	2.85	17.97	57.51	2.80	17.97	57.60	2.75	17.96	57.70	2.70	17.95	57.79	2.65	17.95	57.89
3.22	17.97	57.56	3.17	17.96	57.66	3.11	17.96	57.76	3.05	17.95	57.85	2.99	17.95	57.95	2.93	17.94	58.04
3.89	17.96	57.74	3.82	17.95	57.84	3.74	17.95	57.94	3.67	17.94	58.04	3.59	17.94	58.13	3.52	17.94	58.22
4.58	17.95	57.85	4.49	17.95	57.95	4.39	17.94	58.04	4.30	17.94	58.14	4.21	17.94	58.23	4.13	17.93	58.33
5.27	17.95	57.91	5.16	17.94	58.01	5.06	17.94	58.11	4.95	17.94	58.20	4.84	17.93	58.30	4.74	17.93	58.39
5.97	17.95	57.95	5.85	17.94	58.05	5.73	17.94	58.15	5.60	17.94	58.24	5.48	17.93	58.34	5.36	17.93	58.43
6.68	17.95	57.98	6.54	17.94	58.08	6.40	17.94	58.18	6.26	17.94	58.27	6.12	17.93	58.37	5.99	17.93	58.46
7.39	17.94	58.00	7.23	17.94	58.10	7.08	17.94	58.20	6.92	17.93	58.29	6.77	17.93	58.39	6.62	17.93	58.48
10.97	17.94	58.05	10.73	17.94	58.15	10.50	17.94	58.25	10.27	17.93	58.34	10.03	17.93	58.44	9.80	17.93	58.53
1.84	20.48	53.69	1.81	20.43	53.92	1.78	20.39	54.13	1.76	20.35	54.32	1.74	20.31	54.51	1.71	20.28	54.69
2.12	20.14	55.51	2.09	20.12	55.67	2.06	20.10	55.82	2.03	20.08	55.97	2.00	20.06	56.11	1.97	20.05	56.25
2.45	20.05	56.29	2.41	20.03	56.43	2.37	20.02	56.57	2.33	20.00	56.70	2.29	19.99	56.83	2.25	19.98	56.95
2.79	20.00	56.71	2.74	19.99	56.84	2.69	19.98	56.98	2.65	19.97	57.10	2.60	19.96	57.23	2.55	19.96	57.35
3.15	19.98	56.96	3.09	19.97	57.10	3.03	19.96	57.23	2.97	19.96	57.35	2.92	19.95	57.48	2.86	19.94	57.60
3.51	19.97	57.13	3.45	19.96	57.26	3.38	19.95	57.39	3.31	19.95	57.52	3.25	19.94	57.64	3.18	19.94	57.76
4.26	19.96	57.33	4.18	19.95	57.47	4.09	19.94	57.59	4.01	19.94	57.72	3.93	19.93	57.84	3.84	19.93	57.96
5.03	19.95	57.45	4.92	19.94	57.58	4.82	19.94	57.70	4.72	19.93	57.83	4.62	19.93	57.95	4.52	19.93	58.07
5.82	19.95	57.51	5.68	19.94	57.64	5.56	19.94	57.77	5.44	19.93	57.90	5.32	19.93	58.02	5.20	19.93	58.14
6.58	19.95	57.56	6.44	19.94	57.69	6.31	19.93	57.82	6.17	19.93	57.94	6.03	19.93	58.06	5.90	19.92	58.18
7.37	19.94	57.59	7.21	19.94	57.72	7.06	19.93	57.85	6.90	19.93	57.97	6.75	19.93	58.09	6.59	19.92	58.21
8.16	19.94	57.61	7.98	19.94	57.74	7.81	19.93	57.87	7.64	19.93	57.99	7.47	19.93	58.11	7.30	19.92	58.23
12.13	19.94	57.66	11.87	19.93	57.79	11.60	19.93	57.92	11.34	19.93	58.05	11.09	19.92	58.17	10.83	19.92	58.29
1.94	22.63	52.57	1.91	22.55	52.91	1.88	22.48	53.21	1.85	22.42	53.49	1.82	22.37	53.75	1.79	22.32	53.99
2.26	22.18	54.81	2.22	22.15	55.03	2.18	22.12	55.23	2.15	22.10	55.43	2.11	22.08	55.62	2.08	22.05	55.79
2.62	22.06	55.71	2.57	22.04	55.90	2.53	22.02	56.08	2.48	22.01	56.26	2.44	21.99	56.42	2.40	21.98	56.59
3.00	22.01	56.18	2.95	22.00	56.36	2.89	21.98	56.54	2.84	21.97	56.70	2.78	21.96	56.87	2.73	21.95	57.02
3.40	21.99	56.47	3.33	21.98	56.65	3.27	21.96	56.81	3.20	21.95	56.98	3.14	21.94	57.14	3.08	21.94	57.29
3.80	21.98	56.66	3.73	21.96	56.83	3.65	21.95	57.00	3.58	21.94	57.16	3.51	21.94	57.31	3.43	21.93	57.47
4.63	21.96	56.88	4.54	21.95	57.05	4.44	21.94	57.21	4.35	21.93	57.37	4.26	21.93	57.53	4.16	21.92	57.68
5.48	21.95	57.00	5.36	21.94	57.17	5.25	21.93	57.33	5.13	21.93	57.49	5.02	21.92	57.65	4.91	21.92	57.80
6.33	21.95	57.08	6.19	21.94	57.24	6.06	21.93	57.41	5.93	21.93	57.56	5.80	21.92	57.72	5.67	21.92	57.87
7.19	21.95	57.12	7.03	21.94	57.29	6.88	21.93	57.45	6.73	21.92	57.61	6.58	21.92	57.77	6.43	21.92	57.92
8.05	21.94	57.16	7.88	21.94	57.32	7.71	21.93	57.49	7.55	21.92	57.64	7.36	21.92	57.80	7.20	21.92	57.95
8.92	21.94	57.18	8.73	21.93	57.35	8.53	21.93	57.51	8.34	21.92	57.67	8.15	21.92	57.82	7.97	21.92	57.97
13.28	21.94	57.24	12.99	21.93	57.40	12.70	21.93	57.57	12.41	21.92	57.72	12.13	21.92	57.88	11.84	21.91	58.03
2.05	24.84	51.18	2.01	24.71	51.69	1.97	24.61	52.14	1.94	24.52	52.53	1.91	24.44	52.89	1.88	24.38	53.22
2.39	24.24	54.00	2.35	24.19	54.30	2.31	24.15	54.57	2.27	24.12	54.83	2.23	24.09	55.08	2.19	24.06	55.31
2.79	24.09	55.05	2.74	24.06	55.30	2.69	24.04	55.54	2.64	24.02	55.77	2.59	24.00	55.99	2.54	23.98	56.20
3.21	24.03	55.59	3.15	24.01	55.83	3.09	23.99	56.05	3.03	23.97	56.27	2.97	23.96	56.48	2.91	23.95	56.67
3.65	24.00	55.92	3.57	23.98	56.14	3.50	23.97	56.36	3.43	23.95	56.57	3.36	23.94	56.77	3.29	23.93	56.97
4.09	23.98	56.12	4.01	23.97	56.35	3.93	23.95	56.56	3.84	23.94	56.77	3.76	23.93	56.97	3.68	23.92	57.16
5.00	23.97	56.37	4.89	23.95	56.59	4.79	23.94	56.80	4.69	23.93	57.00	4.58	23.92	57.20	4.48	23.91	57.38
5.92	23.96	56.50	5.79	23.94	56.72	5.67	23.93	56.93	5.54	23.92	57.13	5.42	23.92	57.32	5.30	23.91	57.51
6.85	23.95	56.58	6.70	23.94	56.80	6.56	23.93	57.01	6.41	23.92	57.21	6.27	23.91	57.40	6.12	23.91	57.59
7.79	23.95	56.64	7.62	23.94	56.85	7.45	23.93	57.06	7.28	23.92	57.26	7.12	23.91	57.45	6.96	23.91	57.64
8.73	23.95	56.67	8.54	23.93	56.89	8.35	23.93	57.09	8.16	23.92	57.29	7.98	23.91	57.48	7.79	23.91	57.67
9.68	23.94	56.70	9.46	23.93	56.91	9.25	23.92	57.12	9.04	23.92	57.32	8.83	23.91	57.51	8.63	23.91	57.70
14.42	23.94	56.76	14.10	23.93	56.97	13.78	23.92	57.18	13.47	23.92	57.38	13.16	23.91	57.57	12.85	23.91	57.75
2.17	27.22	49.26	2.12	26.97	50.13	2.07	26.79	50.82	2.03	26.65	51.40	1.99	26.54	51.91	1.96	26.45	52.36
2.53	26.32	53.05	2.48	26.25	53.45	2.44	26.20	53.82	2.39	26.15	54.17	2.35	26.11	54.49	2.30	26.07	54.78
2.97	26.13	54.29	2.91	26.09	54.63	2.85	26.06	54.94	2.79	26.03	55.24	2.74	26.00	55.51	2.69	25.98	55.78
3.43	26.04	54.92	3.36	26.03	55.23	3.29	26.00	55.52	3.22	25.98	55.79	3.15	25.96	56.05	3.09	25.94	56.30
3.90	26.02	55.29	3.82	25.99	55.58	3.74	25.97	55.86	3.66	25.95	56.12	3.58	25.94	56.38	3.51	25.93	56.62
4.38	26.00	55.52	4.29	25.98	55.81	4.20	25.96	56.08	4.11	25.94	56.34	4.02	25.93	56.59	3.93	25.92	56.83
5.37	25.98	55.79	5.25	25.96	56.07	5.13	25.94	56.34	5.02	25.93	56.59	4.91	25.92	56.84	4.80	25.91	57.07
6.37	25.97	55.94	6.22	25.95	56.22	6.09	25.93	56.48	5.95	25.92	56.73	5.82	25.91	56.97	5.69	25.90	57.20
7.37	25.96	56.03	7.21	25.94	56.30	7.05	25.93	56.57	6.89	25.92	56.81	6.73	25.91	57.05	6.58	25.90	57.28
8.39	25.96	56.09	8.20	25.94	56.36	8.01	25.93	56.62	7.83	25.91	56.87	7.65	25.91	57.11	7.48	25.90	57.34
9.41	25.95	56.13	9.19	25.94	56.40	8.99	25.92	56.66	8.78	25.91	56.91	8.58	25.91	57.14	8.38	25.90	57.37
10.43	25.95	56.16	10.19	25.94	56.43	9.96	25.92	56.69	9.73	25.91	56.93	9.51	25.90	57.17	9.28	25.90	57.40
15.55	25.95	56.22	15.20	25.93	56.49	14.85	25.92	56.75	14.51	25.91	57.00	14.17	25.90	57.23	13.84	25.90	57.46
2.32	30.16	45.73	2.24	29.45	47.85	2.18	29.09	49.08	2.13	28.85	50.00	2.08	28.68	50.74	2.04	28.54	51.36
2.68	28.44	51.88	2.62	28.34	52.45	2.56	28.26	52.96	2.51	28.19	53.41	2.46	28.13	53.83	2.42	28.09	54.21
3.14	28.19	53.40	3.08	28.13	53.85	3.01	28.08	54.26	2.95	28.04	54.64	2.89	28.01	54.99	2.83	27.98	55.32
3.64	28.10	54.14	3.56	28.05	54.54	3.48	28.01	54.91	3.41	27.98	55.26	3.34	27.96	55.59	3.27	27.94	55.90
4.15	28.05	54.56	4.06	28.01	54.94	3.97	27.98	55.30	3.89	27.96	55.63	3.80	27.94	55.95	3.72	27.92	56.25
4.67	28.02	54.83	4.57	27.99	55.20	4.47	27.96	55.54	4.37	27.94	55.87	4.27	27.92	56.18	4.18	27.91	56.47
5.73	27.99	55.14	5.60	27.97	55.49	5.48	27.94	55.83	5.35	27.93	56.14	5.23	27.91	56.45	5.11	27.90	56.73
6.81	27.98	55.30	6.65	27.96	55.65	6.50	27.93	55.98	6.35	27.92	56.29	6.21	27.91	56.59	6.07	27.90	56.88
7.89	27.97	55.40	7.71	27.95	55.75	7.53	27.93	56.07	7.36	27.91	56.39	7.19	27.90	56.68	7.02	27.89	56.96
8.98	27.97	55.46	8.77	27.94	55.81	8.57	27.93	56.14	8.37	27.91	56.44	8.18	27.90	56.74	7.99	27.89	57.02
10.07	27.97	55.51	9.84	27.94	55.85	9.61	27.92	56.18	9.39	27.91	56.48	9.17	27.90	56.78	8.96	27.89	57.06
11.17	27.96	55.54	10.91	27.94	55.88	10.66	27.92	56.21	10.41	27.91	56.51	10.17	27.90	56.81	9.93	27.89	57.08
16.67	27.96	55.61	16.28	27.94	55.95	15.91	27.92	56.28	15.53	27.91	56.58	15.17	27.90	56.87	14.81	27.89	57.15

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(e) $\epsilon_p = 60°$; $\Gamma = 5°$; $\epsilon_r = 8.72°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
30	34.28	62.23	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	49.26	46.53	2.40	30.88	49.30	9.66	.2656	1.78
			5.0	–	–	–	–	–	–	–	–	49.64	42.90	3.40	30.35	51.62	13.35	.2366	2.10
			6.0	–	–	–	–	–	–	–	–	50.14	41.12	3.95	30.24	52.61	17.99	.2202	2.31
			7.0	–	–	–	–	–	–	–	–	50.40	40.07	4.31	30.16	53.15	23.52	.2077	2.46
			8.0	54.27	49.52	5.32	31.52	46.96	35.21	.2774	1.59	50.55	39.40	5.08	30.12	53.46	29.92	.1990	2.57
			10.0	55.40	47.91	6.94	31.14	46.26	43.03	.2722	1.62	50.71	38.62	6.24	30.07	53.87	45.28	.1881	2.71
			12.0	56.27	46.46	7.45	30.87	45.49	60.48	.2692	1.72	50.79	38.19	7.42	30.05	54.07	64.06	.1818	2.79
			14.0	56.85	45.37	9.96	30.70	50.07	123.9	.2585	1.80	50.83	37.94	8.61	30.04	54.19	86.26	.1779	2.85
			16.0	57.28	44.95	12.72	30.64	50.37	202.0	.2556	1.83	50.86	37.77	9.80	30.03	54.27	111.9	.1753	2.88
			18.0	57.12	44.83	14.10	30.62	50.44	248.4	.2547	1.84	50.88	37.66	11.00	30.04	54.32	140.9	.1736	2.91
			20.0	57.25	44.55	21.08	30.58	50.62	553.0	.2526	1.86	50.90	37.57	12.20	30.02	54.36	173.4	.1723	2.93
			30.0	–	–	–	–	–	–	–	–	50.93	37.38	18.21	30.02	54.45	386.6	.1692	2.97
32	36.46	62.66	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	6.56	50.96	3.11	33.63	45.89	11.09	.2530	1.58
			5.0	–	–	–	–	–	–	–	–	9.19	46.11	3.60	32.62	49.89	14.98	.2308	1.92
			6.0	–	–	–	–	–	–	–	–	9.94	44.12	4.18	32.37	51.22	20.19	.2144	2.11
			7.0	–	–	–	–	–	–	–	–	10.29	42.99	4.77	32.26	51.91	26.42	.2032	2.25
			8.0	–	–	–	–	–	–	–	–	10.50	42.28	5.38	32.20	52.32	33.63	.1954	2.34
			10.0	–	–	–	–	–	–	–	–	10.71	41.49	6.62	32.14	52.79	50.98	.1857	2.47
			12.0	–	–	–	–	–	–	–	–	10.82	41.02	7.88	32.11	53.03	72.20	.1801	2.54
			14.0	–	–	–	–	–	–	–	–	10.88	40.75	9.14	32.10	53.17	97.28	.1766	2.59
			16.0	–	–	–	–	–	–	–	–	10.92	40.58	10.41	32.09	53.27	126.2	.1744	2.62
			18.0	–	–	–	–	–	–	–	–	10.95	40.46	11.68	32.08	53.33	159.0	.1728	2.64
			20.0	–	–	–	–	–	–	–	–	10.97	40.38	12.96	32.08	53.37	195.7	.1716	2.66
			30.0	53.44	51.60	15.67	33.83	45.24	307.1	.2540	1.48	11.01	40.18	19.36	32.06	53.44	437.0	.1689	2.70
				54.28	50.63	23.19	33.54	46.21	672.5	.2523	1.53								
34	38.65	63.12	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	8.14	50.00	3.83	35.09	47.18	16.95	.2235	1.71
			5.0	–	–	–	–	–	–	–	–	9.45	47.47	4.42	34.02	49.30	22.64	.2093	1.91
			6.0	–	–	–	–	–	–	–	–	9.99	46.17	5.05	34.44	50.27	29.59	.1993	2.04
			7.0	–	–	–	–	–	–	–	–	10.29	45.38	5.69	34.35	50.82	37.66	.1924	2.13
			8.0	–	–	–	–	–	–	–	–	10.50	44.48	7.01	34.26	51.42	57.11	.1836	2.24
			10.0	–	–	–	–	–	–	–	–	10.75	44.01	8.34	34.22	51.73	80.92	.1787	2.30
			12.0	–	–	–	–	–	–	–	–	10.84	43.72	9.68	34.19	51.91	109.1	.1756	2.34
			14.0	–	–	–	–	–	–	–	–	10.89	43.54	11.02	34.18	52.02	141.6	.1735	2.37
			16.0	–	–	–	–	–	–	–	–	10.93	43.42	12.37	34.17	52.10	178.4	.1721	2.39
			18.0	–	–	–	–	–	–	–	–	10.95	43.33	13.72	34.16	52.15	219.5	.1711	2.40
			20.0	–	–	–	–	–	–	–	–	11.01	43.12	20.50	34.14	52.28	490.4	.1686	2.44
			30.0	–	–	–	–	–	–	–	–								
36	[illegible]	63.62	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	38.13	51.71	4.71	37.21	46.03	25.71	.2042	1.68
			7.0	–	–	–	–	–	–	–	–	39.23	49.87	5.35	36.50	47.01	33.25	.1958	1.82
			8.0	–	–	–	–	–	–	–	–	39.75	48.87	6.03	36.62	48.68	42.20	.1898	1.90
			10.0	–	–	–	–	–	–	–	–	40.24	47.80	7.41	36.46	49.56	63.87	.1818	2.01
			12.0	–	–	–	–	–	–	–	–	40.47	47.26	8.81	36.39	49.98	90.45	.1776	2.07
			14.0	–	–	–	–	–	–	–	–	40.59	46.94	10.23	36.35	50.23	121.9	.1746	2.11
			16.0	–	–	–	–	–	–	–	–	40.67	46.73	11.65	36.33	50.38	158.2	.1725	2.13
			18.0	–	–	–	–	–	–	–	–	40.73	46.59	13.08	36.31	50.48	199.4	.1710	2.15
			20.0	–	–	–	–	–	–	–	–	40.76	46.49	14.51	36.30	50.56	245.3	.1700	2.16
			30.0	–	–	–	–	–	–	–	–	40.85	46.26	21.68	36.26	50.73	546.0	.1684	2.19
38	42.96	64.14	4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			7.0	–	–	–	–	–	–	–	–	57.99	53.64	6.44	39.40	44.92	48.25	.1667	1.63
			8.0	–	–	–	–	–	–	–	–	59.22	51.84	7.86	38.63	46.93	71.96	.1601	1.76
			10.0	–	–	–	–	–	–	–	–	59.67	51.09	9.34	38.77	47.30	101.5	.1762	1.82
			12.0	–	–	–	–	–	–	–	–	59.91	50.65	10.83	38.69	47.71	136.6	.1738	1.86
			14.0	–	–	–	–	–	–	–	–	60.05	50.35	12.33	38.64	47.96	177.1	.1722	1.89
			16.0	–	–	–	–	–	–	–	–	60.14	50.21	13.83	38.61	48.12	223.0	.1710	1.90
			18.0	–	–	–	–	–	–	–	–	60.20	50.09	15.34	38.59	48.24	274.4	.1702	1.92
			20.0	–	–	–	–	–	–	–	–	60.26	49.80	22.91	38.54	48.50	812.4	.1685	1.95
40	45.09	64.70	4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			7.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			8.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			10.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			14.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			16.0	–	–	–	–	–	–	–	–	57.48	55.95	14.92	41.80	42.25	259.4	.1704	1.56
			18.0	–	–	–	–	–	–	–	–	57.91	55.47	16.48	41.61	42.96	316.5	.1697	1.59
			20.0	–	–	–	–	–	–	–	–	58.54	54.70	24.48	41.35	43.99	679.2	.1681	1.64
			30.0	–	–	–	–	–	–	–	–								
42	47.27	65.27	4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			7.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			8.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			10.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			14.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			16.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			18.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			20.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			30.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(e) $\epsilon_p = 60°$; $\Gamma = 5°$; $\epsilon_r = 8.72°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
-	-	-	-	-	-	2.30	31.70	46.38	2.23	31.19	48.11	2.18	30.88	49.28	2.13	30.68	50.18
2.83	30.64	50.37	2.76	30.47	51.22	2.70	30.34	51.92	2.64	30.25	52.54	2.58	30.17	53.08	2.53	30.11	53.57
3.32	30.28	52.32	3.25	30.19	52.93	3.18	30.12	53.47	3.11	30.06	53.96	3.04	30.02	54.41	2.98	29.98	54.83
3.85	30.15	53.21	3.77	30.09	53.74	3.68	30.04	54.23	3.60	30.00	54.67	3.52	29.96	55.08	3.45	29.94	55.47
4.40	30.09	53.70	4.30	30.04	54.20	4.20	30.00	54.66	4.11	29.96	55.08	4.02	29.94	55.47	3.93	29.92	55.84
4.96	30.06	54.01	4.85	30.01	54.49	4.74	29.97	54.93	4.63	29.94	55.34	4.52	29.92	55.73	4.42	29.90	56.09
6.09	30.02	54.37	5.95	29.98	54.83	5.82	29.95	55.25	5.68	29.93	55.65	5.55	29.91	56.02	5.42	29.89	56.37
7.24	30.01	54.56	7.07	29.97	55.01	6.91	29.94	55.42	6.75	29.92	55.81	6.59	29.90	56.18	6.44	29.89	56.52
8.40	30.00	54.67	8.21	29.96	55.11	8.01	29.93	55.53	7.83	29.91	55.91	7.64	29.90	56.27	7.46	29.89	56.62
9.57	29.99	54.74	9.34	29.96	55.18	9.12	29.93	55.59	8.91	29.91	55.97	8.70	29.89	56.33	8.49	29.88	56.68
10.73	29.99	54.79	10.48	29.95	55.23	10.23	29.93	55.64	9.99	29.91	56.02	9.76	29.89	56.38	9.53	29.88	56.72
11.90	29.98	54.83	11.62	29.95	55.26	11.35	29.93	55.67	11.08	29.91	56.05	10.82	29.89	56.41	10.56	29.88	56.75
17.78	29.98	54.91	17.36	29.94	55.34	16.95	29.92	55.75	16.54	29.90	56.12	16.15	29.89	56.48	15.76	29.88	56.82
-	-	-	-	-	-	-	-	-	2.36	33.92	44.97	2.28	33.23	47.29	2.22	32.87	48.71
2.99	32.99	48.21	2.90	32.68	49.61	2.83	32.47	50.65	2.76	32.33	51.50	2.70	32.22	52.22	2.64	32.14	52.86
3.51	32.42	50.96	3.42	32.28	51.82	3.34	32.17	52.55	3.26	32.10	53.19	3.19	32.04	53.76	3.12	31.99	54.28
4.07	32.24	52.07	3.97	32.14	52.79	3.88	32.07	53.43	3.79	32.01	54.00	3.70	31.97	54.51	3.62	31.94	54.99
4.65	32.16	52.67	4.54	32.08	53.34	4.43	32.02	53.93	4.33	31.97	54.46	4.23	31.94	54.95	4.14	31.91	55.40
5.25	32.11	53.04	5.12	32.04	53.67	5.00	31.99	54.24	4.88	31.95	54.75	4.77	31.92	55.23	4.66	31.90	55.67
6.46	32.07	53.46	6.30	32.01	54.06	6.15	31.96	54.60	6.01	31.93	55.09	5.87	31.91	55.55	5.73	31.89	55.98
7.68	32.04	53.68	7.49	31.99	54.26	7.31	31.95	54.79	7.14	31.92	55.27	6.97	31.90	55.72	6.81	31.88	56.14
8.91	32.03	53.81	8.70	31.98	54.38	8.49	31.94	54.90	8.29	31.91	55.38	8.09	31.89	55.83	7.90	31.88	56.24
10.15	32.02	53.90	9.90	31.97	54.46	9.67	31.94	54.98	9.43	31.91	55.45	9.21	31.89	55.89	8.99	31.88	56.31
11.39	32.02	53.95	11.11	31.97	54.52	10.85	31.93	55.03	10.59	31.91	55.50	10.33	31.89	55.94	10.09	31.88	56.35
12.64	32.01	53.99	12.33	31.97	54.55	12.03	31.93	55.06	11.74	31.91	55.53	11.46	31.89	55.97	11.19	31.87	56.38
18.87	32.00	54.09	18.41	31.96	54.64	17.97	31.93	55.15	17.54	31.90	55.61	17.12	31.88	56.05	16.70	31.87	56.46
-	-	-	-	-	-	-	-	-	-	-	-	2.40	36.03	43.88	2.31	35.20	46.73
3.22	36.18	43.41	3.06	35.08	47.24	2.97	34.68	48.98	2.89	34.45	50.22	2.82	34.29	51.21	2.75	34.17	52.04
3.70	34.66	49.10	3.60	34.42	50.40	3.50	34.26	51.43	3.42	34.14	52.28	3.34	34.06	53.01	3.26	34.00	53.67
4.29	34.38	50.61	4.18	34.23	51.63	4.08	34.12	52.49	3.98	34.04	53.22	3.88	33.98	53.87	3.80	33.94	54.46
4.91	34.26	51.38	4.78	34.14	52.29	4.66	34.06	53.07	4.55	33.99	53.75	4.45	33.94	54.36	4.34	33.91	54.92
5.54	34.20	51.84	5.40	34.10	52.70	5.26	34.02	53.43	5.14	33.96	54.08	5.02	33.92	54.67	4.90	33.90	55.21
6.82	34.13	52.36	6.65	34.05	53.15	6.48	33.98	53.84	6.33	33.94	54.46	6.17	33.90	55.03	6.03	33.88	55.54
8.12	34.10	52.62	7.91	34.02	53.39	7.71	33.97	54.06	7.53	33.92	54.66	7.35	33.90	55.22	7.17	33.87	55.72
9.42	34.09	52.78	9.18	34.01	53.53	8.95	33.96	54.19	8.74	33.92	54.79	8.53	33.89	55.33	8.32	33.87	55.83
10.73	34.08	52.88	10.46	34.00	53.62	10.20	33.95	54.27	9.95	33.91	54.86	9.71	33.89	55.40	9.48	33.87	55.90
12.05	34.07	52.95	11.74	34.00	53.68	11.45	33.95	54.33	11.17	33.91	54.92	10.90	33.88	55.45	10.64	33.87	55.95
13.36	34.06	52.99	13.02	33.99	53.72	12.70	33.94	54.37	12.39	33.91	54.95	12.09	33.88	55.49	11.80	33.87	55.98
19.97	34.05	53.11	19.46	33.99	53.83	18.98	33.94	54.46	18.51	33.90	55.04	18.06	33.88	55.57	17.62	33.86	56.07
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.83	37.94	43.40
-	-	-	-	-	-	3.12	37.09	46.50	3.02	36.65	48.56	2.94	36.39	49.97	2.87	36.23	51.08
3.92	37.20	46.04	3.78	36.66	48.47	3.67	36.39	50.01	3.57	36.22	51.18	3.49	36.10	52.15	3.40	36.01	52.97
4.53	36.64	48.58	4.39	36.37	50.15	4.27	36.19	51.34	4.16	36.08	52.31	4.06	36.00	53.14	3.97	35.94	53.87
5.17	36.44	49.67	5.03	36.24	50.99	4.89	36.11	52.04	4.77	36.02	52.93	4.66	35.95	53.70	4.54	35.91	54.38
5.84	36.34	50.29	5.67	36.18	51.49	5.53	36.06	52.47	5.39	35.99	53.31	5.26	35.93	54.04	5.13	35.89	54.70
7.19	36.25	50.95	6.99	36.11	52.04	6.81	36.02	52.95	6.64	35.95	53.74	6.48	35.91	54.44	6.32	35.88	55.07
8.55	36.20	51.29	8.32	36.08	52.33	8.11	35.99	53.21	7.91	35.94	53.97	7.71	35.90	54.65	7.53	35.87	55.27
9.93	36.18	51.48	9.66	36.06	52.50	9.42	35.98	53.36	9.18	35.93	54.11	8.95	35.89	54.78	8.74	35.86	55.39
11.31	36.16	51.61	11.01	36.05	52.60	10.73	35.97	53.45	10.46	35.92	54.19	10.20	35.89	54.86	9.95	35.86	55.46
12.70	36.15	51.69	12.36	36.04	52.68	12.04	35.97	53.52	11.74	35.92	54.25	11.45	35.88	54.91	11.17	35.86	55.51
14.09	36.14	51.75	13.71	36.04	52.73	13.36	35.96	53.56	13.03	35.91	54.30	12.70	35.88	54.95	12.39	35.86	55.55
21.06	36.13	51.89	20.50	36.03	52.85	19.97	35.96	53.67	19.47	35.91	54.40	18.99	35.88	55.05	18.52	35.86	55.64
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	3.99	39.23	45.24	-	-	-	3.16	39.02	46.13	3.06	38.56	48.39	2.98	38.31	49.93
4.81	39.30	44.95	4.61	38.61	48.08	3.84	38.61	48.09	3.73	38.33	49.82	3.63	38.15	51.12	3.54	38.04	52.18
5.46	38.81	47.08	5.28	38.41	49.27	4.47	38.32	49.88	4.35	38.14	51.21	4.24	38.03	52.29	4.13	37.95	53.21
6.15	38.62	48.07	5.96	38.31	49.94	5.12	38.19	50.77	4.99	38.06	51.95	4.86	37.97	52.93	4.74	37.91	53.78
7.57	38.45	49.04	7.34	38.21	50.65	5.79	38.13	51.30	5.64	38.02	52.40	5.49	37.94	53.33	5.36	37.89	54.14
9.01	38.37	49.51	8.74	38.17	51.01	7.14	38.07	51.89	6.95	37.97	52.90	6.78	37.91	53.78	6.61	37.87	54.55
10.46	38.33	49.77	10.15	38.14	51.22	8.50	38.04	52.19	8.28	37.95	53.17	8.07	37.90	54.01	7.87	37.86	54.76
11.91	38.31	49.94	11.56	38.12	51.35	9.87	38.02	52.36	9.62	37.94	53.32	9.37	37.89	54.15	9.14	37.86	54.89
13.37	38.29	50.05	12.98	38.11	51.44	11.25	38.01	52.48	10.96	37.94	53.42	10.68	37.89	54.24	10.42	37.86	54.98
14.83	38.28	50.13	14.40	38.11	51.51	12.63	38.00	52.55	12.30	37.93	53.49	11.99	37.88	54.31	11.70	37.85	55.03
22.17	38.26	50.32	21.53	38.09	51.65	14.01	38.00	52.61	13.65	37.93	53.54	13.31	37.88	54.35	12.98	37.85	55.07
						20.95	37.99	52.73	20.41	37.92	53.65	19.89	37.88	54.45	19.40	37.85	55.17
-	-	-	-	-	-	-	-	-	-	-	-	3.19	40.86	46.17	3.09	40.43	48.50
-	-	-	-	-	-	4.04	41.11	44.98	3.89	40.51	48.01	3.78	40.24	49.86	3.68	40.07	51.25
-	-	-	4.84	41.24	44.65	4.68	40.53	47.89	4.54	40.24	49.84	4.41	40.07	51.28	4.30	39.96	52.44
-	-	-	5.55	40.75	46.70	5.36	40.34	49.12	5.20	40.13	50.76	5.06	40.00	52.04	4.94	39.92	53.10
6.55	41.44	43.62	6.25	40.56	47.75	6.05	40.24	49.82	5.88	40.07	51.31	5.73	39.96	52.50	5.58	39.89	53.50
8.00	40.91	45.92	7.69	40.39	48.77	7.46	40.15	50.55	7.26	40.01	51.91	7.07	39.92	53.01	6.89	39.87	53.96
9.50	40.74	46.77	9.16	40.32	49.27	8.89	40.11	50.93	8.65	39.98	52.22	8.42	39.91	53.28	8.21	39.86	54.20
11.02	40.65	47.22	10.64	40.28	49.55	10.32	40.08	51.15	10.04	39.97	52.40	9.78	39.90	53.44	9.54	39.85	54.34
12.55	40.60	47.49	12.12	40.25	49.72	11.77	40.07	51.28	11.45	39.96	52.51	11.15	39.89	53.54	10.87	39.85	54.44
14.08	40.57	47.66	13.61	40.24	49.84	13.21	40.06	51.38	12.85	39.95	52.59	12.52	39.89	53.61	12.21	39.85	54.50
15.62	40.55	47.79	15.10	40.23	49.92	14.66	40.05	51.44	14.26	39.95	52.65	13.89	39.88	53.66	13.54	39.85	54.54
23.33	40.50	48.07	22.57	40.20	50.12	21.91	40.04	51.60	21.33	39.94	52.78	20.77	39.88	53.78	20.25	39.84	54.65
-	-	-	-	-	-	-	-	-	-	-	-	3.35	43.64	42.02	3.21	42.66	46.59
-	-	-	-	-	-	-	-	-	4.07	42.89	45.26	3.93	42.37	48.24	3.81	42.13	50.14
-	-	-	-	-	-	4.91	43.03	44.62	4.72	42.40	48.03	4.58	42.14	50.05	4.46	41.99	51.56
-	-	-	-	-	-	5.60	42.61	46.74	5.42	42.23	49.25	5.26	42.04	50.97	5.13	41.93	52.31
-	-	-	6.60	43.24	43.67	6.32	42.44	47.77	6.12	42.15	49.94	5.95	41.99	51.52	5.80	41.90	52.78
-	-	-	8.09	42.78	45.82	7.79	42.29	48.80	7.56	42.07	50.69	7.35	41.94	52.12	7.16	41.87	53.29
-	-	-	9.61	42.63	46.67	9.28	42.23	49.30	9.01	42.03	51.06	8.77	41.92	52.43	8.54	41.86	53.57
-	-	-	11.15	42.55	47.11	10.78	42.19	49.58	10.47	42.01	51.28	10.19	41.91	52.62	9.92	41.85	53.73
-	-	-	12.70	42.50	47.39	12.28	42.17	49.76	11.93	42.00	51.42	11.61	41.90	52.73	11.31	41.85	53.83
15.04	43.60	42.17	14.26	42.48	47.57	13.79	42.16	49.88	13.40	41.99	51.52	13.04	41.90	52.81	12.70	41.84	53.90
16.64	43.46	42.74	15.82	42.46	47.69	15.30	42.15	49.97	14.87	41.98	51.59	14.47	41.89	52.87	14.10	41.84	53.95
24.76	43.23	43.69	23.64	42.41	47.98	22.88	42.12	50.16	22.23	41.97	51.74	21.64	41.89	53.00	21.08	41.84	54.07

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(f) $\epsilon_p = 60°$; $\Gamma = 10°$; $\epsilon_r = 17.78°$

			$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
α, deg	δ_N, deg	ϵ_e, deg	M_∞	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	2.25	61.24	3.0	61.21	21.04	1.08	2.01	60.83	1.20	.8968	2.86	61.23	20.87	1.07	2.01	60.84	1.17	.8961	2.90
			4.0	61.22	15.96	1.10	1.99	60.95	1.26	.8700	3.78	61.23	15.80	1.09	1.99	60.95	1.22	.8688	3.85
			5.0	61.23	13.00	1.12	1.98	61.01	1.33	.8434	4.69	61.23	12.84	1.11	1.98	61.01	1.27	.8416	4.79
			6.0	61.23	11.05	1.15	1.98	61.05	1.40	.8176	5.57	61.23	10.89	1.13	1.98	61.05	1.33	.8152	5.72
			7.0	61.23	9.67	1.18	1.98	61.07	1.48	.7929	6.43	61.24	9.51	1.16	1.97	61.08	1.39	.7896	6.64
			8.0	61.23	8.64	1.20	1.97	61.09	1.56	.7692	7.28	61.24	8.48	1.18	1.97	61.10	1.46	.7650	7.54
			10.0	61.23	7.22	1.26	1.97	61.12	1.73	.7251	8.91	61.24	7.06	1.23	1.97	61.12	1.59	.7188	9.31
			12.0	61.23	6.29	1.31	1.97	61.14	1.91	.6849	10.46	61.24	6.12	1.28	1.97	61.14	1.74	.6763	11.02
			14.0	61.23	5.63	1.37	1.97	61.15	2.11	.6485	11.95	61.24	5.45	1.33	1.97	61.15	1.90	.6375	12.69
			16.0	61.23	5.14	1.43	1.97	61.16	2.32	.6156	13.36	61.24	4.96	1.38	1.97	61.16	2.07	.6019	14.31
			18.0	61.23	4.77	1.50	1.97	61.17	2.55	.5858	14.70	61.24	4.58	1.44	1.97	61.17	2.25	.5694	15.88
			20.0	61.23	4.47	1.56	1.97	61.17	2.79	.5588	15.98	61.24	4.29	1.49	1.97	61.18	2.44	.5396	17.39
			30.0	61.23	3.64	1.90	1.97	61.19	4.28	.4578	21.40	61.24	3.43	1.79	1.97	61.19	3.59	.4253	24.24
4	4.51	60.95	3.0	60.85	22.73	1.16	4.02	60.09	1.43	.8086	2.72	60.90	22.36	1.14	4.01	60.11	1.35	.8062	2.80
			4.0	60.88	17.59	1.21	3.98	60.32	1.58	.7638	3.58	60.92	17.24	1.19	3.98	60.34	1.47	.7597	3.71
			5.0	60.89	14.62	1.26	3.96	60.45	1.74	.7214	4.39	60.93	14.27	1.23	3.96	60.46	1.61	.7152	4.60
			6.0	60.90	12.69	1.32	3.95	60.53	1.92	.6823	5.17	60.93	12.34	1.28	3.95	60.54	1.75	.6738	5.46
			7.0	60.90	11.34	1.38	3.95	60.58	2.12	.6466	5.92	60.93	10.98	1.33	3.95	60.60	1.91	.6356	6.29
			8.0	60.91	10.34	1.44	3.95	60.62	2.33	.6141	6.62	60.93	9.98	1.39	3.95	60.64	2.07	.6005	7.10
			10.0	60.91	8.99	1.56	3.94	60.68	2.80	.5579	7.93	60.93	8.61	1.50	3.94	60.69	2.45	.5389	8.64
			12.0	60.91	8.12	1.69	3.94	60.71	3.34	.5118	9.11	60.93	7.72	1.61	3.94	60.73	2.87	.4872	10.08
			14.0	60.91	7.52	1.83	3.94	60.73	3.95	.4739	10.16	60.93	7.11	1.73	3.94	60.75	3.34	.4440	11.43
			16.0	60.91	7.10	1.98	3.94	60.75	4.63	.4427	11.10	60.93	6.67	1.86	3.94	60.77	3.86	.4078	12.67
			18.0	60.91	6.78	2.12	3.94	60.76	5.39	.4169	11.93	60.93	6.34	1.99	3.94	60.78	4.45	.3774	13.82
			20.0	60.91	6.53	2.28	3.94	60.77	6.23	.3955	12.67	60.93	6.09	2.12	3.94	60.79	5.08	.3518	14.88
			30.0	60.91	5.89	3.08	3.94	60.80	11.60	.3300	15.26	60.93	5.61	2.83	3.94	60.82	9.16	.2709	18.96
6	6.78	60.69	3.0	60.46	24.54	1.25	6.03	59.32	1.69	.7333	2.58	60.57	23.95	1.22	6.02	59.36	1.56	.7285	2.70
			4.0	60.54	19.35	1.33	5.97	59.69	1.95	.6775	3.38	60.63	18.78	1.29	5.96	59.73	1.77	.6692	3.57
			5.0	60.57	16.40	1.41	5.94	59.88	2.24	.6270	4.12	60.64	15.83	1.36	5.94	59.92	2.00	.6149	4.40
			6.0	60.59	14.50	1.50	5.93	60.00	2.57	.5827	4.80	60.65	13.92	1.44	5.93	60.04	2.26	.5665	5.19
			7.0	60.59	13.20	1.60	5.92	60.09	2.94	.5442	5.43	60.66	12.60	1.53	5.92	60.12	2.55	.5239	5.95
			8.0	60.60	12.25	1.70	5.92	60.14	3.35	.5109	6.01	60.66	11.64	1.61	5.92	60.18	2.87	.4865	6.66
			10.0	60.60	10.99	1.91	5.92	60.22	4.29	.4571	7.03	60.66	10.35	1.80	5.91	60.26	3.60	.4248	7.98
			12.0	60.61	10.20	2.13	5.91	60.27	5.40	.4167	7.89	60.66	9.54	1.99	5.91	60.31	4.45	.3773	9.15
			14.0	60.61	9.68	2.35	5.91	60.30	6.68	.3861	8.61	60.66	9.00	2.19	5.91	60.34	5.43	.3405	10.19
			16.0	60.61	9.32	2.59	5.91	60.32	8.14	.3626	9.21	60.66	8.61	2.40	5.91	60.36	6.53	.3118	11.10
			18.0	60.61	9.05	2.83	5.91	60.34	9.78	.3444	9.70	60.66	8.34	2.61	5.91	60.38	7.78	.2891	11.89
			20.0	60.61	8.85	3.08	5.91	60.35	11.60	.3300	10.11	60.66	8.13	2.83	5.91	60.39	9.16	.2710	12.58
			30.0	60.61	8.35	4.36	5.91	60.38	23.50	.2904	11.37	60.67	7.59	3.96	5.91	60.42	18.13	.2198	14.90
8	9.06	60.48	3.0	60.05	26.49	1.34	8.05	58.52	1.99	.6892	2.45	60.26	25.64	1.30	8.03	58.61	1.80	.6613	2.60
			4.0	60.21	21.25	1.45	7.96	59.04	2.38	.6074	3.19	60.36	20.43	1.40	7.95	59.11	2.11	.5942	3.43
			5.0	60.26	18.32	1.57	7.93	59.30	2.86	.5541	3.85	60.39	17.50	1.50	7.92	59.37	2.47	.5354	4.21
			6.0	60.28	16.48	1.70	7.91	59.46	3.37	.5095	4.44	60.40	15.64	1.62	7.90	59.53	2.89	.4852	4.93
			7.0	60.30	15.23	1.84	7.90	59.57	3.98	.4725	4.97	60.41	14.37	1.74	7.90	59.64	3.35	.4429	5.60
			8.0	60.31	14.34	1.98	7.90	59.64	4.66	.4418	5.44	60.41	13.45	1.86	7.89	59.72	3.88	.4072	6.22
			10.0	60.32	13.17	2.28	7.89	59.74	6.25	.3952	6.22	60.42	12.25	2.12	7.89	59.82	5.09	.3517	7.33
			12.0	60.32	12.47	2.59	7.89	59.80	8.15	.3625	6.84	60.42	11.52	2.40	7.88	59.88	6.53	.3118	8.26
			14.0	60.32	12.01	2.91	7.88	59.84	10.37	.3392	7.32	60.42	11.04	2.68	7.88	59.92	8.21	.2827	9.03
			16.0	60.33	11.70	3.24	7.88	59.86	12.92	.3221	7.70	60.42	10.71	2.97	7.88	59.94	10.14	.2610	9.68
			18.0	60.33	11.48	3.58	7.88	59.88	15.79	.3093	8.00	60.43	10.47	3.27	7.88	59.96	12.31	.2446	10.21
			20.0	60.33	11.31	3.92	7.88	59.89	19.00	.2996	8.23	60.43	10.29	3.57	7.88	59.98	14.73	.2319	10.66
			30.0	60.33	10.91	5.68	7.88	59.93	40.05	.2762	8.90	60.43	9.85	5.13	7.88	60.01	30.57	.1983	12.01
10	11.35	60.30	3.0	59.61	28.59	1.44	10.08	57.66	2.33	.6144	2.32	59.95	27.42	1.38	10.05	57.82	2.06	.6032	2.50
			4.0	59.86	23.28	1.58	9.95	58.35	2.88	.5506	3.00	60.11	22.18	1.51	9.94	58.48	2.49	.5322	3.29
			5.0	59.95	20.39	1.74	9.91	58.69	3.55	.4977	3.59	60.16	19.28	1.65	9.90	58.81	3.01	.4724	4.01
			6.0	59.99	18.60	1.91	9.89	58.89	4.33	.4554	4.10	60.18	17.47	1.80	9.88	59.02	3.62	.4235	4.66
			7.0	60.01	17.41	2.09	9.88	59.02	5.24	.4217	4.53	60.19	16.25	1.96	9.87	59.15	4.31	.3838	5.26
			8.0	60.03	16.57	2.28	9.87	59.11	6.26	.3948	4.91	60.20	15.39	2.12	9.86	59.24	5.09	.3515	5.79
			10.0	60.04	15.50	2.67	9.86	59.23	8.68	.3558	5.51	60.21	14.28	2.47	9.86	59.36	6.93	.3037	6.70
			12.0	60.05	14.87	3.08	9.86	59.30	11.61	.3300	5.95	60.21	13.61	2.82	9.85	59.43	9.14	.2712	7.43
			14.0	60.06	14.46	3.50	9.86	59.34	15.04	.3122	6.28	60.21	13.18	3.19	9.85	59.47	11.73	.2484	8.00
			16.0	60.06	14.19	3.92	9.86	59.37	18.99	.2996	6.52	60.22	12.89	3.57	9.85	59.50	14.70	.2321	8.46
			18.0	60.06	14.00	4.35	9.86	59.39	23.46	.2905	6.71	60.22	12.69	3.95	9.85	59.52	18.06	.2200	8.82
			20.0	60.06	13.86	4.79	9.86	59.40	28.45	.2836	6.85	60.22	12.53	4.34	9.85	59.54	21.82	.2109	9.11
			30.0	60.07	13.51	7.01	9.85	59.44	61.23	.2662	7.24	60.22	12.16	6.32	9.85	59.58	46.45	.1875	9.94
12	13.65	60.17	3.0	59.12	30.85	1.64	12.12	56.72	2.71	.5675	2.19	59.64	29.32	1.47	12.07	56.98	2.35	.5529	2.40
			4.0	59.51	25.46	1.72	11.96	57.61	3.45	.5043	2.82	59.87	24.02	1.69	11.93	57.82	2.93	.4809	3.15
			5.0	59.64	22.60	1.92	11.90	58.03	4.37	.4539	3.34	59.95	21.16	1.81	11.88	58.23	3.64	.4224	3.81
			6.0	59.70	20.86	2.14	11.87	58.28	5.46	.4150	3.77	59.98	19.41	1.99	11.85	58.48	4.47	.3763	4.40
			7.0	59.74	19.72	2.36	11.86	58.43	6.73	.3852	4.13	60.00	18.24	2.19	11.84	58.63	5.43	.3402	4.92
			8.0	59.76	18.93	2.60	11.85	58.54	8.17	.3621	4.43	60.01	17.43	2.40	11.84	58.74	6.53	.3118	5.37
			10.0	59.78	17.94	3.08	11.84	58.67	11.61	.3299	4.89	60.03	16.39	2.82	11.83	58.88	9.12	.2713	6.12
			12.0	59.80	17.36	3.58	11.84	58.75	15.79	.3094	5.21	60.03	15.79	3.26	11.83	58.95	12.27	.2449	6.68
			14.0	59.80	17.00	4.09	11.83	58.80	20.70	.2957	5.43	60.04	15.40	3.72	11.82	59.00	15.96	.2270	7.11
			16.0	59.81	16.76	4.61	11.83	58.83	26.36	.2861	5.60	60.04	15.14	4.18	11.82	59.04	20.21	.2144	7.43
			18.0	59.81	16.59	5.14	11.83	58.85	32.77	.2793	5.72	60.04	14.96	4.65	11.82	59.06	25.03	.2053	7.68
			20.0	59.81	16.46	5.67	11.83	58.87	39.93	.2743	5.81	60.04	14.83	5.12	11.82	59.08	30.40	.1985	7.88
			30.0	59.82	16.17	8.35	11.83	58.91	87.01	.2617	6.06	60.05	14.51	7.52	11.82	59.12	65.72	.1814	9.42
14	15.96	60.07	3.0	58.55	33.29	1.65	14.19	55.67	3.14	.5272	2.06	59.32	31.32	1.56	14.10	56.09	2.67	.5094	2.30
			4.0	59.13	27.77	1.86	13.97	56.80	4.09	.4666	2.64	59.66	25.97	1.75	13.92	57.13	3.41	.4383	3.01
			5.0	59.33	24.93	2.11	13.89	57.32	5.31	.4196	3.10	59.77	23.14	1.97	13.86	57.62	4.34	.3825	3.62
			6.0	59.42	23.24	2.37	13.86	57.61	6.76	.3846	3.47	59.81	21.44	2.19	13.83	57.91	5.44	.3400	4.14
			7.0	59.47	22.14	2.64	13.84	57.79	8.46	.3585	3.76	59.84	20.32	2.43	13.82	58.09	6.73	.3077	4.59
			8.0	59.50	21.40	2.92	13.83	57.92	10.40	.3389	4.00	59.86	19.55	2.68	13.81	58.21	8.19	.2830	4.98
			10.0	59.53	20.47	3.50	13.82	58.07	15.04	.3122	4.35	59.87	18.58	3.19	13.80	58.36	11.68	.2487	5.58
			12.0	59.55	19.94	4.09	13.81	58.15	20.69	.2957	4.59	59.88	18.02	3.71	13.80	58.45	15.92	.2271	6.02
			14.0	59.56	19.60	4.70	13.81	58.20	27.35	.2849	4.75	59.89	17.67	4.25	13.80	58.50	20.91	.2128	6.34
			16.0	59.56	19.39	5.31	13.81	58.24	35.03	.2775	4.86	59.89	17.44	4.80	13.79	58.54	26.66	.2029	6.58
			18.0	59.57	19.23	5.93	13.81	58.26	43.73	.2722	4.95	59.89	17.28	5.35	13.79	58.57	33.18	.1958	6.76
			20.0	59.57	19.12	6.55	13.81	58.28	53.45	.2684	5.01	59.90	17.16	5.90	13.79	58.58	40.46	.1906	6.89
			30.0	59.58	18.86	9.70	13.80	58.32	117.4	.2589	5.17	59.90	16.88	8.71	13.79	58.63	88.32	.1777	7.26

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(f) $\epsilon_p = 60°$; $\Gamma = 10°$; $\epsilon_r = 17.78°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.07	2.01	60.84	1.07	2.01	60.84	1.06	2.01	60.84	1.06	2.01	60.84	1.06	2.01	60.84	1.06	2.01	60.84
1.09	1.99	60.95	1.09	1.99	60.95	1.08	1.99	60.95	1.08	1.99	60.95	1.08	1.99	60.95	1.08	1.99	60.95
1.11	1.98	61.01	1.11	1.98	61.01	1.10	1.98	61.01	1.10	1.98	61.01	1.10	1.98	61.01	1.10	1.98	61.01
1.13	1.98	61.05	1.13	1.98	61.05	1.12	1.98	61.05	1.12	1.98	61.05	1.12	1.98	61.05	1.12	1.98	61.05
1.15	1.97	61.08	1.15	1.97	61.08	1.15	1.97	61.08	1.14	1.97	61.08	1.14	1.97	61.08	1.14	1.97	61.08
1.18	1.97	61.10	1.17	1.97	61.10	1.17	1.97	61.10	1.16	1.97	61.10	1.16	1.97	61.10	1.16	1.97	61.10
1.22	1.97	61.12	1.22	1.97	61.13	1.21	1.97	61.13	1.21	1.97	61.13	1.20	1.97	61.13	1.20	1.97	61.13
1.27	1.97	61.14	1.27	1.97	61.14	1.26	1.97	61.14	1.25	1.97	61.14	1.25	1.97	61.15	1.24	1.97	61.15
1.32	1.97	61.16	1.32	1.97	61.16	1.31	1.97	61.16	1.30	1.97	61.16	1.29	1.97	61.16	1.28	1.97	61.16
1.37	1.97	61.16	1.37	1.97	61.17	1.36	1.97	61.17	1.35	1.97	61.17	1.34	1.97	61.17	1.33	1.97	61.17
1.43	1.97	61.17	1.42	1.97	61.17	1.41	1.97	61.17	1.40	1.97	61.17	1.39	1.97	61.17	1.38	1.97	61.18
1.48	1.97	61.18	1.47	1.97	61.18	1.46	1.97	61.18	1.45	1.97	61.18	1.44	1.97	61.18	1.42	1.97	61.18
1.78	1.97	61.19	1.76	1.97	61.19	1.74	1.97	61.20	1.72	1.97	61.20	1.70	1.97	61.20	1.68	1.97	61.20
1.14	4.01	60.11	1.14	4.01	60.11	1.13	4.01	60.12	1.13	4.01	60.12	1.13	4.01	60.12	1.12	4.01	60.12
1.18	3.97	60.34	1.18	3.97	60.34	1.17	3.97	60.35	1.17	3.97	60.35	1.16	3.97	60.35	1.16	3.97	60.35
1.23	3.96	60.47	1.22	3.96	60.47	1.22	3.96	60.47	1.21	3.96	60.47	1.21	3.96	60.48	1.20	3.96	60.48
1.28	3.95	60.55	1.27	3.95	60.55	1.26	3.95	60.55	1.26	3.95	60.55	1.25	3.95	60.56	1.24	3.95	60.56
1.33	3.95	60.60	1.32	3.95	60.60	1.31	3.95	60.61	1.30	3.95	60.61	1.29	3.95	60.61	1.29	3.95	60.61
1.38	3.95	60.64	1.37	3.95	60.64	1.36	3.95	60.65	1.35	3.95	60.65	1.34	3.95	60.65	1.33	3.95	60.65
1.48	3.94	60.69	1.47	3.94	60.70	1.46	3.94	60.70	1.45	3.94	60.70	1.44	3.94	60.71	1.43	3.94	60.71
1.60	3.94	60.73	1.58	3.94	60.73	1.57	3.94	60.73	1.55	3.94	60.74	1.54	3.94	60.74	1.52	3.94	60.74
1.72	3.94	60.75	1.70	3.94	60.76	1.68	3.94	60.76	1.66	3.94	60.76	1.64	3.94	60.76	1.63	3.94	60.77
1.84	3.94	60.77	1.82	3.94	60.77	1.80	3.94	60.78	1.77	3.94	60.78	1.75	3.94	60.78	1.73	3.94	60.78
1.96	3.94	60.78	1.94	3.94	60.79	1.91	3.94	60.79	1.89	3.94	60.79	1.87	3.94	60.80	1.84	3.94	60.80
2.09	3.94	60.79	2.07	3.94	60.80	2.04	3.94	60.80	2.01	3.94	60.80	1.98	3.94	60.81	1.95	3.94	60.81
2.78	3.94	60.82	2.74	3.94	60.82	2.69	3.94	60.83	2.65	3.94	60.83	2.60	3.94	60.83	2.56	3.94	60.84
1.21	6.02	59.37	1.21	6.02	59.38	1.20	6.02	59.39	1.20	6.01	59.40	1.19	6.01	59.40	1.19	6.01	59.41
1.28	5.96	59.73	1.27	5.96	59.74	1.27	5.96	59.75	1.26	5.96	59.76	1.25	5.96	59.76	1.25	5.96	59.77
1.35	5.94	59.93	1.35	5.94	59.93	1.34	5.94	59.94	1.33	5.94	59.95	1.32	5.94	59.95	1.31	5.94	59.96
1.43	5.93	60.05	1.42	5.93	60.05	1.41	5.93	60.06	1.40	5.93	60.07	1.39	5.93	60.07	1.38	5.93	60.08
1.51	5.92	60.13	1.50	5.92	60.14	1.49	5.92	60.14	1.48	5.92	60.15	1.46	5.92	60.16	1.45	5.92	60.16
1.60	5.92	60.19	1.58	5.92	60.19	1.57	5.92	60.20	1.55	5.92	60.21	1.54	5.92	60.21	1.52	5.92	60.22
1.78	5.91	60.27	1.76	5.91	60.27	1.74	5.91	60.28	1.72	5.91	60.29	1.70	5.91	60.29	1.68	5.91	60.30
1.96	5.91	60.32	1.94	5.91	60.32	1.91	5.91	60.33	1.89	5.91	60.34	1.87	5.91	60.34	1.84	5.91	60.35
2.16	5.91	60.35	2.13	5.91	60.36	2.10	5.91	60.36	2.07	5.91	60.37	2.04	5.91	60.38	2.01	5.91	60.38
2.36	5.91	60.37	2.33	5.91	60.38	2.29	5.91	60.39	2.26	5.91	60.39	2.22	5.91	60.40	2.19	5.91	60.41
2.57	5.91	60.39	2.53	5.91	60.40	2.49	5.91	60.40	2.45	5.91	60.41	2.41	5.91	60.42	2.37	5.91	60.43
2.78	5.91	60.40	2.74	5.91	60.41	2.69	5.91	60.42	2.64	5.91	60.42	2.60	5.91	60.43	2.55	5.91	60.44
3.89	5.91	60.43	3.81	5.91	60.44	3.74	5.91	60.45	3.67	5.91	60.46	3.60	5.91	60.47	3.53	5.91	60.47
1.29	8.03	58.62	1.28	8.02	58.64	1.28	8.02	58.65	1.27	8.02	58.67	1.26	8.02	58.68	1.26	8.01	58.70
1.39	7.95	59.12	1.38	7.94	59.14	1.37	7.94	59.15	1.36	7.94	59.16	1.35	7.94	59.18	1.34	7.94	59.19
1.49	7.92	59.39	1.48	7.92	59.40	1.47	7.91	59.41	1.45	7.91	59.43	1.44	7.91	59.44	1.43	7.91	59.45
1.60	7.90	59.55	1.59	7.90	59.56	1.57	7.90	59.57	1.56	7.90	59.59	1.54	7.90	59.60	1.53	7.90	59.61
1.72	7.89	59.66	1.70	7.89	59.67	1.68	7.89	59.68	1.66	7.89	59.69	1.65	7.89	59.71	1.63	7.89	59.72
1.84	7.89	59.73	1.82	7.89	59.75	1.80	7.89	59.76	1.78	7.89	59.77	1.75	7.89	59.78	1.73	7.89	59.80
2.09	7.88	59.83	2.07	7.88	59.85	2.04	7.88	59.86	2.01	7.88	59.87	1.98	7.88	59.89	1.95	7.88	59.90
2.36	7.88	59.89	2.33	7.88	59.91	2.29	7.88	59.92	2.26	7.88	59.93	2.22	7.88	59.95	2.19	7.88	59.96
2.64	7.88	59.93	2.60	7.88	59.95	2.55	7.88	59.96	2.51	7.88	59.97	2.47	7.88	59.99	2.43	7.88	60.00
2.92	7.88	59.96	2.87	7.88	59.97	2.82	7.88	59.99	2.77	7.88	60.00	2.73	7.88	60.02	2.68	7.88	60.03
3.21	7.88	59.98	3.16	7.88	59.99	3.10	7.88	60.01	3.04	7.88	60.02	2.99	7.88	60.04	2.93	7.88	60.05
3.51	7.88	59.99	3.45	7.88	60.01	3.38	7.88	60.02	3.32	7.88	60.04	3.26	7.88	60.05	3.19	7.88	60.07
5.03	7.88	60.03	4.93	7.88	60.04	4.83	7.88	60.06	4.74	7.88	60.07	4.64	7.88	60.09	4.54	7.88	60.10
1.37	10.04	57.84	1.36	10.03	57.87	1.35	10.03	57.90	1.34	10.02	57.93	1.33	10.02	57.95	1.33	10.01	57.98
1.50	9.93	58.50	1.48	9.93	58.53	1.47	9.93	58.55	1.46	9.92	58.57	1.45	9.92	58.59	1.43	9.92	58.62
1.63	9.89	58.84	1.62	9.89	58.86	1.60	9.89	58.88	1.59	9.89	58.90	1.57	9.89	58.92	1.55	9.88	58.95
1.78	9.88	59.04	1.76	9.88	59.06	1.74	9.87	59.08	1.72	9.87	59.10	1.70	9.87	59.13	1.68	9.87	59.15
1.93	9.87	59.17	1.91	9.87	59.19	1.89	9.86	59.22	1.86	9.86	59.24	1.84	9.86	59.26	1.81	9.86	59.28
2.09	9.86	59.26	2.07	9.86	59.29	2.04	9.86	59.31	2.01	9.86	59.33	1.98	9.86	59.35	1.95	9.86	59.37
2.43	9.86	59.38	2.39	9.85	59.41	2.35	9.85	59.43	2.32	9.85	59.45	2.28	9.85	59.47	2.24	9.85	59.49
2.78	9.85	59.45	2.73	9.85	59.48	2.69	9.85	59.50	2.64	9.85	59.52	2.59	9.85	59.55	2.55	9.85	59.57
3.14	9.85	59.50	3.08	9.85	59.52	3.03	9.85	59.54	2.97	9.85	59.57	2.92	9.85	59.59	2.86	9.85	59.61
3.51	9.85	59.53	3.44	9.85	59.55	3.38	9.85	59.58	3.31	9.85	59.60	3.25	9.85	59.62	3.19	9.85	59.65
3.88	9.85	59.55	3.81	9.85	59.57	3.73	9.85	59.60	3.66	9.85	59.62	3.59	9.85	59.65	3.52	9.85	59.67
4.26	9.85	59.57	4.18	9.85	59.59	4.09	9.85	59.61	4.01	9.85	59.64	3.93	9.85	59.66	3.85	9.85	59.69
6.19	9.85	59.60	6.07	9.85	59.63	5.94	9.85	59.65	5.82	9.85	59.68	5.69	9.85	59.70	5.57	9.85	59.73
1.46	12.06	57.03	1.44	12.05	57.08	1.43	12.04	57.12	1.42	12.03	57.16	1.41	12.02	57.20	1.40	12.02	57.24
1.61	11.92	57.86	1.60	11.92	57.90	1.58	11.91	57.93	1.56	11.91	57.97	1.55	11.90	58.00	1.53	11.90	58.04
1.78	11.87	58.27	1.76	11.87	58.31	1.74	11.87	58.34	1.72	11.86	58.37	1.70	11.86	58.41	1.68	11.86	58.44
1.97	11.85	58.51	1.94	11.85	58.55	1.92	11.85	58.58	1.89	11.84	58.61	1.87	11.84	58.65	1.84	11.84	58.68
2.16	11.84	58.67	2.13	11.84	58.70	2.10	11.84	58.74	2.07	11.83	58.77	2.04	11.83	58.80	2.01	11.83	58.84
2.36	11.83	58.78	2.32	11.83	58.81	2.29	11.83	58.85	2.25	11.83	58.88	2.22	11.83	58.91	2.18	11.83	58.95
2.78	11.83	58.91	2.73	11.83	58.95	2.68	11.82	58.98	2.64	11.82	59.02	2.59	11.82	59.05	2.55	11.82	59.09
3.21	11.82	58.99	3.15	11.82	59.03	3.09	11.82	59.06	3.04	11.82	59.10	2.98	11.82	59.13	2.92	11.82	59.17
3.65	11.82	59.04	3.58	11.82	59.08	3.51	11.82	59.11	3.45	11.82	59.15	3.38	11.82	59.19	3.31	11.82	59.22
4.10	11.82	59.07	4.02	11.82	59.11	3.94	11.82	59.15	3.87	11.82	59.18	3.79	11.82	59.22	3.71	11.82	59.26
4.56	11.82	59.10	4.47	11.82	59.13	4.38	11.82	59.17	4.29	11.82	59.21	4.20	11.82	59.24	4.11	11.82	59.28
5.02	11.82	59.11	4.92	11.82	59.15	4.82	11.82	59.19	4.72	11.82	59.23	4.62	11.82	59.26	4.52	11.82	59.30
7.36	11.82	59.16	7.21	11.82	59.19	7.06	11.82	59.23	6.90	11.82	59.27	6.75	11.82	59.31	6.60	11.82	59.34
1.54	14.08	56.17	1.53	14.07	56.23	1.51	14.06	56.30	1.50	14.04	56.37	1.49	14.03	56.43	1.47	14.02	56.49
1.73	13.91	57.19	1.71	13.90	57.24	1.69	13.90	57.30	1.67	13.89	57.35	1.65	13.88	57.40	1.64	13.88	57.46
1.94	13.85	57.68	1.91	13.85	57.73	1.89	13.84	57.78	1.86	13.84	57.83	1.84	13.83	57.88	1.82	13.83	57.93
2.16	13.83	57.96	2.13	13.82	58.01	2.10	13.82	58.06	2.07	13.82	58.11	2.04	13.81	58.16	2.01	13.81	58.21
2.39	13.81	58.14	2.36	13.81	58.19	2.32	13.81	58.24	2.28	13.81	58.29	2.25	13.80	58.34	2.21	13.80	58.39
2.63	13.81	58.26	2.59	13.80	58.32	2.55	13.80	58.37	2.50	13.80	58.42	2.46	13.80	58.47	2.42	13.79	58.51
3.13	13.80	58.42	3.07	13.80	58.47	3.02	13.79	58.52	2.96	13.79	58.57	2.91	13.79	58.62	2.86	13.79	58.67
3.64	13.80	58.50	3.58	13.79	58.56	3.51	13.79	58.61	3.44	13.79	58.66	3.37	13.79	58.71	3.31	13.79	58.76
4.17	13.79	58.56	4.09	13.79	58.61	4.01	13.79	58.66	3.93	13.79	53.72	3.85	13.79	58.77	3.77	13.79	58.82
4.70	13.79	58.59	4.61	13.79	58.65	4.52	13.79	58.70	4.42	13.79	58.75	4.33	13.79	58.80	4.24	13.79	58.85
5.24	13.79	58.62	5.13	13.79	58.67	5.03	13.79	58.73	4.92	13.79	58.78	4.82	13.79	58.83	4.72	13.78	58.88
5.78	13.79	58.64	5.66	13.79	58.69	5.55	13.79	58.74	5.43	13.79	58.80	5.31	13.79	58.85	5.20	13.78	58.90
8.53	13.79	58.68	8.35	13.79	58.74	8.17	13.79	58.79	7.99	13.79	58.84	7.81	13.78	58.89	7.64	13.78	58.95

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(f) $\epsilon_p = 60°$; $\Gamma = 10°$; $\epsilon_r = 17.78°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$							$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	18.26	60.02	3.0	57.86	35.96	1.76	16.30	54.45	3.63	.4923	1.93	58.98	33.44	1.65	16.15	55.12	3.02	.4715	2.20
			4.0	58.72	30.24	2.31	15.99	55.30	4.83	.4355	2.46	59.45	28.01	1.88	15.92	56.39	3.95	.4028	2.86
			5.0	58.99	27.40	2.80	15.90	56.52	6.37	.3925	2.87	59.60	25.21	2.13	15.84	56.97	5.13	.3504	3.42
			6.0	59.12	25.74	2.61	15.86	56.87	8.24	.3613	3.18	59.67	23.55	2.40	15.81	57.30	6.54	.3117	3.89
			7.0	59.19	24.68	2.92	15.83	57.08	10.43	.3386	3.42	59.70	22.47	2.68	15.80	57.51	8.19	.2830	4.28
			8.0	59.23	23.96	3.25	15.82	57.22	12.95	.3219	3.62	59.73	21.74	2.96	15.79	57.65	10.08	.2616	4.60
			10.0	59.28	23.09	3.92	15.80	57.39	18.98	.2997	3.89	59.75	20.83	3.56	15.78	57.82	14.59	.2326	5.09
			12.0	59.30	22.59	4.61	15.80	57.49	26.37	.2862	4.07	59.76	20.31	4.17	15.77	57.91	20.08	.2147	5.44
			14.0	59.32	22.28	5.31	15.79	57.55	34.99	.2775	4.18	59.77	19.99	4.79	15.77	57.97	26.56	.2030	5.68
			16.0	59.33	22.08	6.01	15.79	57.58	44.09	.2716	4.27	59.77	19.78	5.41	15.77	58.01	34.03	.1951	5.86
			18.0	59.34	21.94	6.72	15.79	57.61	56.32	.2675	4.33	59.78	19.63	6.05	15.76	58.04	42.50	.1895	5.99
			20.0	59.34	21.84	7.44	15.79	57.63	68.98	.2645	4.37	59.78	19.52	6.68	15.76	58.06	51.95	.1853	6.09
			30.0	59.35	21.59	11.04	15.78	57.67	152.2	.2571	4.48	59.78	19.27	9.90	15.76	58.10	114.1	.1752	6.35
18	20.57	60.00	3.0	56.94	38.95	1.89	18.49	52.96	4.20	.4615	1.79	58.60	35.71	1.75	18.22	54.03	3.41	.4385	2.09
			4.0	58.24	32.88	2.17	18.04	54.86	5.65	.4098	2.28	59.25	30.15	2.01	17.92	55.59	4.54	.3731	2.72
			5.0	58.62	30.00	2.50	17.92	55.63	7.57	.3708	2.64	59.45	27.37	2.30	17.83	56.27	6.00	.3244	3.23
			6.0	58.80	28.35	2.85	17.86	56.04	9.91	.3432	2.91	59.54	25.74	2.61	17.80	56.65	7.75	.2894	3.64
			7.0	58.89	27.32	3.21	17.83	56.28	12.66	.3235	3.12	59.59	24.70	2.93	17.78	56.88	9.82	.2641	3.98
			8.0	58.95	26.63	3.59	17.81	56.45	15.83	.3092	3.27	59.62	24.00	3.25	17.76	57.04	12.18	.2454	4.25
			10.0	59.01	25.79	4.35	17.80	56.64	23.42	.2905	3.49	59.65	23.14	3.93	17.75	57.23	17.85	.2206	4.65
			12.0	59.05	25.31	5.13	17.79	56.75	32.68	.2794	3.62	59.67	22.65	4.62	17.75	57.33	24.75	.2057	4.93
			14.0	59.07	25.03	5.92	17.78	56.81	43.42	.2723	3.71	59.68	22.35	5.32	17.74	57.39	32.90	.1961	5.11
			16.0	59.08	24.84	6.72	17.78	56.85	56.24	.2675	3.77	59.68	22.15	6.03	17.74	57.44	42.30	.1896	5.25
			18.0	59.09	24.70	7.52	17.78	56.88	70.54	.2642	3.82	59.69	22.02	6.75	17.74	57.46	52.95	.1850	5.35
			20.0	59.10	24.61	8.33	17.77	56.90	86.52	.2617	3.85	59.69	21.92	7.47	17.74	57.49	64.85	.1816	5.42
			30.0	59.11	24.38	12.39	17.77	56.95	191.6	.2558	3.93	59.70	21.68	11.08	17.74	57.54	143.1	.1735	5.61
20	22.88	60.02	3.0	55.58	42.49	2.03	20.84	50.97	4.89	.4334	1.64	58.14	38.15	1.85	20.32	52.78	3.84	.4093	1.98
			4.0	57.64	35.74	2.34	20.13	53.64	6.58	.3882	2.11	59.04	32.39	2.14	19.94	54.71	5.19	.3481	2.57
			5.0	58.19	32.76	2.71	19.96	54.59	8.91	.3532	2.43	59.31	29.61	2.47	19.83	55.51	6.95	.3032	3.04
			6.0	58.43	31.11	3.10	19.88	55.08	11.77	.3289	2.66	59.49	28.00	2.82	19.78	55.94	9.09	.2717	3.41
			7.0	58.56	30.08	3.51	19.84	55.37	15.15	.3118	2.83	59.59	26.99	3.18	19.76	56.20	11.61	.2492	3.70
			8.0	58.64	29.40	3.93	19.82	55.56	19.04	.2995	2.96	59.63	26.32	3.55	19.74	56.38	14.51	.2329	3.93
			10.0	58.73	28.58	4.78	19.80	55.79	28.38	.2837	3.13	59.67	25.49	4.30	19.73	56.58	21.44	.2117	4.26
			12.0	58.78	28.13	5.66	19.79	55.91	39.79	.2743	3.24	59.69	25.03	5.08	19.72	56.70	29.91	.1990	4.48
			14.0	58.80	27.85	6.54	19.78	55.98	53.26	.2684	3.31	59.61	24.75	5.86	19.72	56.77	39.90	.1909	4.62
			16.0	58.82	27.67	7.43	19.77	56.03	68.81	.2645	3.35	59.62	24.56	6.65	19.72	56.81	51.44	.1855	4.73
			18.0	58.83	27.54	8.32	19.77	56.06	86.42	.2617	3.39	59.62	24.43	7.45	19.71	56.84	64.50	.1817	4.80
			20.0	58.84	27.45	9.22	19.77	56.08	106.1	.2597	3.41	59.63	24.34	8.24	19.71	56.87	79.10	.1789	4.86
			30.0	58.86	27.24	13.73	19.76	56.14	235.6	.2549	3.47	59.63	24.12	12.26	19.71	56.92	175.2	.1722	5.00
22	25.19	60.09	3.0	52.54	47.80	2.22	23.86	47.27	5.93	.4026	1.43	57.53	40.82	1.96	22.50	51.28	4.32	.3834	1.86
			4.0	56.83	38.89	2.51	22.29	52.12	7.64	.3697	1.93	58.81	34.75	2.28	21.97	53.71	5.90	.3270	2.43
			5.0	57.64	35.73	2.92	22.07	53.36	10.41	.3388	2.22	59.17	31.93	2.64	21.83	54.66	7.99	.2858	2.85
			6.0	57.99	34.03	3.36	21.93	53.96	13.85	.3174	2.43	59.33	30.34	3.03	21.77	55.16	10.55	.2574	3.18
			7.0	58.17	32.99	3.81	21.88	54.31	17.92	.3025	2.57	59.41	29.35	3.43	21.75	55.46	13.57	.2375	3.43
			8.0	58.28	32.31	4.28	21.85	54.54	22.62	.2919	2.68	59.46	28.69	3.84	21.73	55.65	17.04	.2232	3.63
			10.0	58.40	31.49	5.22	21.82	54.80	33.89	.2784	2.82	59.51	27.90	4.68	21.71	55.88	25.37	.2047	3.90
			12.0	58.46	31.05	6.19	21.80	54.94	47.66	.2705	2.90	59.54	27.45	5.53	21.70	56.01	35.54	.1939	4.08
			14.0	58.50	30.78	7.16	21.79	55.02	63.94	.2655	2.96	59.56	27.18	6.40	21.70	56.08	47.56	.1870	4.19
			16.0	58.52	30.60	8.14	21.78	55.08	82.72	.2622	2.99	59.57	27.01	7.27	21.69	56.13	61.41	.1825	4.28
			18.0	58.54	30.48	9.13	21.78	55.12	104.0	.2599	3.02	59.58	26.88	8.14	21.69	56.17	77.12	.1792	4.34
			20.0	58.55	30.39	10.12	21.78	55.14	127.8	.2583	3.04	59.58	26.80	9.02	21.69	56.19	94.67	.1769	4.38
			30.0	58.57	30.18	15.08	21.77	55.21	284.3	.2542	3.08	59.59	26.59	13.43	21.69	56.25	210.1	.1713	4.49
24	27.49	60.19	3.0	-	-	-	-	-	-	-	-	56.65	43.86	2.08	24.80	49.34	4.87	.3595	1.73
			4.0	55.59	42.58	2.71	24.60	50.06	8.91	.3532	1.75	58.54	37.24	2.42	24.03	52.57	6.67	.3089	2.28
			5.0	56.90	38.98	3.15	24.17	51.82	12.12	.3267	2.02	59.02	34.36	2.82	23.85	53.70	9.12	.2713	2.67
			6.0	57.40	37.16	3.62	24.02	52.60	16.18	.3080	2.20	59.22	32.76	3.25	23.78	54.28	12.13	.2457	2.96
			7.0	57.66	36.08	4.12	23.95	53.04	21.01	.2950	2.32	59.33	31.78	3.69	23.74	54.62	15.69	.2280	3.18
			8.0	57.82	35.38	4.63	23.90	53.31	26.59	.2859	2.41	59.39	31.13	4.14	23.72	54.84	19.79	.2154	3.34
			10.0	57.98	34.55	5.67	23.86	53.63	39.99	.2742	2.53	59.47	30.35	5.05	23.70	55.10	29.63	.1993	3.58
			12.0	58.07	34.10	6.73	23.84	53.80	56.37	.2675	2.60	59.50	29.92	5.99	23.69	55.24	41.64	.1899	3.72
			14.0	58.12	33.83	7.79	23.82	53.90	75.74	.2633	2.64	59.52	29.66	6.93	23.68	55.33	55.84	.1840	3.82
			16.0	58.15	33.65	8.87	23.81	53.96	98.09	.2605	2.67	59.54	29.49	7.88	23.68	55.38	72.21	.1801	3.88
			18.0	58.17	33.53	9.94	23.81	54.00	123.4	.2585	2.70	59.55	29.37	8.83	23.67	55.42	90.78	.1774	3.93
			20.0	58.19	33.44	11.02	23.81	54.04	151.7	.2571	2.71	59.55	29.29	9.78	23.67	55.45	111.5	.1754	3.96
			30.0	58.23	33.24	16.44	23.80	54.11	337.9	.2537	2.75	59.57	29.09	14.58	23.67	55.51	248.0	.1706	4.05
26	29.79	60.34	3.0	-	-	-	-	-	-	-	-	55.00	47.76	2.22	27.48	46.33	5.59	.3356	1.57
			4.0	52.74	47.96	2.77	27.53	46.17	10.79	.3358	1.50	58.18	39.90	2.57	26.13	51.21	7.52	.2932	2.13
			5.0	55.73	42.74	3.39	26.66	49.70	14.15	.3160	1.81	58.83	36.89	3.00	25.89	52.60	10.34	.2592	2.49
			6.0	56.55	40.64	3.91	26.20	50.83	18.85	.3000	1.98	59.10	35.27	3.46	25.79	53.28	13.84	.2361	2.75
			7.0	56.95	39.45	4.45	26.08	51.43	24.50	.2888	2.09	59.25	34.29	3.94	25.74	53.68	17.97	.2203	2.94
			8.0	57.18	38.70	5.00	26.02	51.78	31.05	.2809	2.17	59.33	33.64	4.43	25.72	53.93	22.75	.2091	3.08
			10.0	57.42	37.82	6.13	25.95	52.19	46.79	.2709	2.27	59.42	32.87	5.43	25.69	54.23	34.20	.1950	3.28
			12.0	57.54	37.35	7.28	25.92	52.40	66.06	.2651	2.33	59.47	32.45	6.44	25.68	54.39	48.20	.1868	3.40
			14.0	57.62	37.07	8.44	25.90	52.52	88.84	.2615	2.36	59.50	32.19	7.46	25.67	54.48	64.73	.1816	3.48
			16.0	57.66	36.89	9.60	25.88	52.60	115.1	.2591	2.39	59.51	32.02	8.48	25.66	54.54	83.82	.1782	3.53
			18.0	57.69	36.76	10.77	25.88	52.66	144.9	.2574	2.40	59.52	31.91	9.51	25.66	54.58	105.4	.1759	3.57
			20.0	57.71	36.67	11.94	25.87	52.70	178.2	.2562	2.42	59.53	31.83	10.55	25.66	54.62	129.6	.1742	3.60
			30.0	57.76	36.46	17.83	25.86	52.79	397.3	.2533	2.45	59.55	31.63	15.73	25.65	54.69	288.6	.1700	3.67
28	32.08	60.52	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	57.66	42.81	2.72	28.30	49.51	8.45	.2794	1.97
			5.0	52.98	48.16	3.72	29.35	45.71	17.10	.3049	1.54	58.59	39.57	3.19	27.95	51.30	11.67	.2488	2.31
			6.0	55.05	44.84	4.23	28.61	48.21	22.14	.2928	1.74	58.95	37.89	3.68	27.83	52.13	15.67	.2280	2.54
			7.0	55.78	43.35	4.80	28.37	49.18	28.63	.2834	1.85	59.14	36.88	4.20	27.77	52.60	20.43	.2139	2.71
			8.0	56.17	42.45	5.40	28.25	49.72	36.23	.2766	1.92	59.25	36.23	4.73	27.73	52.89	25.91	.2039	2.84
			10.0	56.56	41.45	6.62	28.13	50.29	54.57	.2680	2.01	59.37	35.46	5.80	27.69	53.23	39.09	.1914	3.01
			12.0	56.76	40.93	7.86	28.08	50.58	77.06	.2631	2.07	59.43	35.04	6.89	27.68	53.41	55.20	.1842	3.11
			14.0	56.87	40.61	9.11	28.05	50.75	103.6	.2600	2.10	59.46	34.78	7.99	27.67	53.52	74.25	.1797	3.17
			16.0	56.94	40.41	10.37	28.03	50.86	134.3	.2579	2.12	59.49	34.62	9.09	27.66	53.59	96.22	.1768	3.22
			18.0	56.98	40.28	11.64	28.02	50.93	169.1	.2565	2.13	59.50	34.50	10.20	27.66	53.64	121.1	.1747	3.25
			20.0	57.01	40.18	12.90	28.01	50.98	208.0	.2554	2.14	59.51	34.42	11.31	27.65	53.68	148.9	.1732	3.27
			30.0	57.09	39.95	19.26	27.99	51.10	463.9	.2530	2.17	59.54	34.23	16.87	27.65	53.76	332.0	.1696	3.33

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(f) $\epsilon_p = 60°$; $\Gamma = 10°$; $\epsilon_r = 17.78°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.63	16.12	55.23	1.62	16.10	55.33	1.60	16.08	55.43	1.58	16.06	55.53	1.56	16.04	55.62	1.55	16.03	55.71
1.85	15.91	56.48	1.83	15.89	56.56	1.81	15.88	56.63	1.78	15.87	56.71	1.76	15.87	56.79	1.74	15.86	56.86
2.10	15.84	57.05	2.07	15.83	57.13	2.04	15.82	57.20	2.01	15.82	57.27	1.98	15.81	57.34	1.95	15.80	57.41
2.36	15.81	57.38	2.32	15.80	57.45	2.29	15.79	57.52	2.25	15.79	57.59	2.22	15.79	57.66	2.18	15.78	57.73
2.63	15.79	57.58	2.59	15.79	57.66	2.54	15.78	57.73	2.50	15.78	57.80	2.46	15.77	57.86	2.42	15.77	57.93
2.91	15.78	57.72	2.86	15.78	57.79	2.81	15.77	57.86	2.76	15.77	57.93	2.71	15.77	58.00	2.66	15.76	58.07
3.49	15.77	57.89	3.43	15.77	57.96	3.36	15.77	58.03	3.30	15.76	58.10	3.23	15.76	58.17	3.17	15.76	58.24
4.09	15.77	57.99	4.01	15.76	58.06	3.93	15.76	58.13	3.85	15.76	58.20	3.77	15.76	58.27	3.69	15.75	58.34
4.69	15.76	58.04	4.60	15.76	58.12	4.51	15.76	58.19	4.41	15.76	58.26	4.32	15.76	58.33	4.23	15.75	58.40
5.31	15.76	58.08	5.20	15.76	58.16	5.09	15.76	58.23	4.98	15.76	58.30	4.88	15.75	58.37	4.77	15.75	58.44
5.92	15.76	58.11	5.80	15.76	58.18	5.68	15.76	58.26	5.56	15.76	58.33	5.44	15.75	58.40	5.32	15.75	58.47
6.55	15.76	58.13	6.41	15.76	58.20	6.28	15.76	58.28	6.14	15.75	58.35	6.01	15.75	58.42	5.87	15.75	58.49
9.69	15.76	58.18	9.48	15.76	58.25	9.28	15.76	58.32	9.07	15.75	58.40	8.87	15.75	58.47	8.67	15.75	58.54
1.73	18.18	54.20	1.71	18.15	54.35	1.69	18.12	54.49	1.66	18.09	54.63	1.64	18.06	54.76	1.62	18.04	54.89
1.98	17.91	55.71	1.95	17.89	55.82	1.93	17.87	55.93	1.90	17.86	55.04	1.87	17.85	56.14	1.85	17.84	56.24
2.26	17.82	56.38	2.23	17.81	56.49	2.19	17.80	56.59	2.16	17.79	56.69	2.13	17.78	56.78	2.09	17.78	56.88
2.56	17.79	56.75	2.52	17.78	56.85	2.48	17.77	56.95	2.44	17.76	57.05	2.39	17.76	57.14	2.35	17.75	57.23
2.87	17.77	56.99	2.82	17.76	57.09	2.77	17.75	57.18	2.72	17.75	57.28	2.67	17.74	57.37	2.63	17.74	57.46
3.19	17.76	57.14	3.14	17.75	57.24	3.08	17.74	57.33	3.02	17.74	57.43	2.96	17.74	57.52	2.91	17.73	57.61
3.85	17.75	57.33	3.78	17.74	57.42	3.71	17.74	57.52	3.63	17.73	57.62	3.56	17.73	57.71	3.49	17.73	57.80
4.53	17.74	57.43	4.44	17.74	57.53	4.35	17.73	57.62	4.26	17.73	57.72	4.17	17.72	57.81	4.08	17.72	57.90
5.22	17.74	57.49	5.11	17.73	57.59	5.00	17.73	57.69	4.90	17.73	57.78	4.79	17.72	57.88	4.69	17.72	57.97
5.91	17.73	57.54	5.79	17.73	57.63	5.66	17.73	57.73	5.54	17.72	57.83	5.42	17.72	57.92	5.30	17.72	58.01
6.61	17.73	57.57	6.47	17.73	57.66	6.33	17.73	57.76	6.19	17.72	57.86	6.06	17.72	57.95	5.92	17.72	58.04
7.31	17.73	57.59	7.15	17.73	57.68	7.00	17.73	57.78	6.85	17.72	57.88	6.70	17.72	57.97	6.55	17.72	58.06
10.85	17.73	57.64	10.61	17.73	57.73	10.38	17.72	57.83	10.15	17.72	57.93	9.92	17.72	58.02	9.69	17.72	58.11
1.83	20.27	53.03	1.80	20.22	53.25	1.77	20.17	53.46	1.75	20.13	53.66	1.73	20.09	53.84	1.70	20.06	54.02
2.11	19.91	54.87	2.08	19.89	55.03	2.05	19.87	55.18	2.02	19.85	55.33	1.98	19.83	55.47	1.95	19.82	55.60
2.43	19.81	55.65	2.39	19.80	55.80	2.35	19.78	55.93	2.31	19.77	56.07	2.27	19.76	56.20	2.23	19.75	56.32
2.77	19.77	56.08	2.72	19.76	56.22	2.67	19.75	56.35	2.62	19.74	56.48	2.58	19.73	56.60	2.53	19.72	56.72
3.12	19.75	56.34	3.06	19.74	56.47	3.00	19.73	56.60	2.95	19.72	56.73	2.89	19.71	56.85	2.84	19.71	56.97
3.48	19.73	56.51	3.41	19.73	56.64	3.35	19.72	56.77	3.28	19.71	56.90	3.22	19.70	57.02	3.15	19.70	57.14
4.22	19.72	56.72	4.13	19.71	56.85	4.05	19.71	56.98	3.97	19.70	57.10	3.89	19.70	57.22	3.80	19.69	57.34
4.97	19.71	56.83	4.87	19.71	56.96	4.77	19.70	57.09	4.67	19.70	57.21	4.57	19.69	57.33	4.47	19.69	57.45
5.74	19.71	56.90	5.62	19.70	57.03	5.50	19.70	57.16	5.38	19.69	57.28	5.27	19.69	57.40	5.15	19.69	57.52
6.51	19.71	56.95	6.37	19.70	57.08	6.24	19.70	57.20	6.10	19.69	57.33	5.97	19.69	57.45	5.83	19.69	57.57
7.29	19.71	56.98	7.13	19.70	57.11	6.98	19.70	57.23	6.83	19.69	57.36	6.67	19.69	57.48	6.52	19.69	57.60
8.07	19.71	57.00	7.89	19.70	57.13	7.72	19.70	57.26	7.55	19.69	57.38	7.38	19.69	57.50	7.22	19.69	57.62
11.99	19.70	57.05	11.73	19.70	57.18	11.47	19.69	57.31	11.22	19.69	57.43	10.96	19.69	57.56	10.71	19.69	57.67
1.93	22.40	51.65	1.90	22.32	51.99	1.87	22.25	52.30	1.84	22.19	52.58	1.81	22.13	52.84	1.78	22.08	53.08
2.24	21.93	53.94	2.20	21.90	54.16	2.17	21.87	54.37	2.13	21.84	54.56	2.10	21.82	54.75	2.06	21.80	54.93
2.60	21.81	54.86	2.55	21.79	55.05	2.51	21.77	55.23	2.46	21.75	55.41	2.42	21.73	55.58	2.38	21.72	55.74
2.97	21.76	55.34	2.92	21.74	55.52	2.87	21.72	55.70	2.81	21.71	55.87	2.76	21.70	56.03	2.71	21.69	56.18
3.37	21.73	55.64	3.30	21.72	55.81	3.24	21.70	55.98	3.17	21.69	56.15	3.11	21.68	56.31	3.05	21.68	56.46
3.76	21.71	55.83	3.69	21.70	56.00	3.62	21.69	56.17	3.54	21.68	56.33	3.47	21.67	56.49	3.40	21.67	56.64
4.58	21.70	56.06	4.49	21.69	56.23	4.40	21.68	56.39	4.30	21.67	56.55	4.21	21.66	56.71	4.12	21.66	56.86
5.42	21.69	56.18	5.30	21.68	56.35	5.19	21.67	56.51	5.08	21.67	56.67	4.97	21.66	56.83	4.86	21.66	56.98
6.26	21.69	56.26	6.13	21.68	56.43	5.99	21.67	56.59	5.86	21.66	56.75	5.73	21.66	56.90	5.61	21.65	57.05
7.11	21.68	56.31	6.96	21.67	56.47	6.81	21.67	56.64	6.66	21.66	56.80	6.51	21.66	56.95	6.36	21.65	57.10
7.96	21.68	56.34	7.79	21.67	56.51	7.62	21.67	56.67	7.45	21.66	56.83	7.28	21.66	56.98	7.12	21.65	57.13
8.82	21.68	56.36	8.63	21.67	56.53	8.44	21.67	56.70	8.25	21.66	56.85	8.06	21.66	57.01	7.88	21.65	57.16
13.13	21.68	56.42	12.84	21.67	56.59	12.56	21.66	56.75	12.27	21.66	56.91	11.99	21.65	57.07	11.71	21.65	57.22
2.04	24.62	49.96	2.00	24.48	50.49	1.96	24.37	50.95	1.93	24.27	51.35	1.90	24.19	51.72	1.86	24.12	52.06
2.38	23.97	52.89	2.33	23.92	53.19	2.29	23.88	53.47	2.25	23.84	53.73	2.21	23.81	53.98	2.18	23.78	54.21
2.77	23.81	53.97	2.72	23.78	54.23	2.67	23.76	54.47	2.62	23.73	54.70	2.57	23.71	54.92	2.52	23.69	55.13
3.18	23.75	54.53	3.12	23.73	54.77	3.06	23.71	55.00	3.00	23.69	55.21	2.94	23.67	55.42	2.88	23.66	55.62
3.61	23.72	54.86	3.54	23.70	55.09	3.47	23.68	55.31	3.40	23.67	55.52	3.33	23.65	55.73	3.26	23.64	55.92
4.05	23.70	55.08	3.97	23.68	55.30	3.89	23.67	55.52	3.81	23.65	55.73	3.75	23.64	55.93	3.65	23.63	56.12
4.95	23.68	55.33	4.84	23.66	55.55	4.74	23.65	55.76	4.64	23.64	55.97	4.54	23.63	56.16	4.44	23.63	56.35
5.86	23.67	55.47	5.73	23.66	55.69	5.61	23.64	55.90	5.48	23.63	56.10	5.36	23.63	56.29	5.24	23.62	56.48
6.78	23.66	55.55	6.63	23.65	55.77	6.48	23.64	55.98	6.34	23.63	56.18	6.20	23.62	56.37	6.06	23.62	56.56
7.70	23.66	55.61	7.54	23.65	55.82	7.37	23.64	56.03	7.20	23.63	56.23	7.04	23.62	56.43	6.88	23.62	56.61
8.64	23.66	55.64	8.44	23.65	55.86	8.26	23.64	56.07	8.07	23.63	56.27	7.89	23.62	56.46	7.71	23.62	56.65
9.57	23.66	55.67	9.36	23.64	55.88	9.15	23.64	56.09	8.94	23.63	56.29	8.74	23.62	56.49	8.53	23.62	56.68
14.26	23.65	55.73	13.94	23.64	55.95	13.63	23.63	56.15	13.32	23.63	56.35	13.01	23.62	56.55	12.70	23.62	56.74
2.16	27.04	47.65	2.11	26.76	48.58	2.06	26.56	49.31	2.02	26.41	49.92	1.98	26.29	50.44	1.95	26.19	50.91
2.51	26.04	51.67	2.47	25.97	52.09	2.42	25.91	52.47	2.37	25.85	52.82	2.33	25.81	53.14	2.29	25.77	53.45
2.94	25.83	52.97	2.88	25.79	53.31	2.83	25.75	53.63	2.77	25.72	53.93	2.72	25.69	54.21	2.66	25.67	54.48
3.39	25.75	53.62	3.32	25.72	53.93	3.26	25.69	54.23	3.19	25.67	54.51	3.13	25.65	54.77	3.06	25.63	55.03
3.86	25.71	54.00	3.78	25.68	54.30	3.70	25.66	54.58	3.62	25.64	54.85	3.55	25.62	55.11	3.47	25.61	55.35
4.34	25.69	54.24	4.24	25.66	54.53	4.15	25.64	54.81	4.07	25.63	55.08	3.98	25.61	55.33	3.89	25.60	55.57
5.31	25.66	54.53	5.19	25.64	54.81	5.08	25.63	55.08	4.97	25.61	55.34	4.86	25.60	55.59	4.75	25.59	55.82
6.30	25.65	54.68	6.16	25.63	54.96	6.02	25.62	55.23	5.89	25.60	55.48	5.75	25.59	55.73	5.62	25.59	55.96
7.29	25.65	54.77	7.13	25.63	55.05	6.97	25.61	55.32	6.81	25.60	55.57	6.66	25.59	55.81	6.51	25.58	56.05
8.29	25.64	54.83	8.11	25.62	55.11	7.93	25.61	55.37	7.75	25.60	55.63	7.57	25.59	55.87	7.39	25.58	56.10
9.30	25.64	54.87	9.09	25.62	55.15	8.89	25.61	55.41	8.68	25.60	55.66	8.48	25.59	55.91	8.29	25.58	56.14
10.31	25.64	54.90	10.08	25.62	55.18	9.85	25.61	55.44	9.62	25.60	55.69	9.40	25.59	55.93	9.18	25.58	56.17
15.38	25.63	54.97	15.03	25.62	55.25	14.68	25.60	55.51	14.34	25.59	55.76	14.01	25.59	56.00	13.68	25.58	56.23
2.34	30.47	42.70	2.23	29.34	45.76	2.17	28.90	47.15	2.12	28.63	48.15	2.07	28.43	48.94	2.03	28.28	49.60
2.66	28.15	50.20	2.60	28.04	50.79	2.55	27.95	51.32	2.49	27.88	51.79	2.45	27.81	52.22	2.40	27.76	52.62
3.12	27.87	51.81	3.05	27.81	52.27	2.99	27.75	52.69	2.93	27.71	53.08	2.87	27.67	53.44	2.81	27.64	53.78
3.60	27.77	52.58	3.53	27.72	52.99	3.45	27.68	53.38	3.38	27.65	53.74	3.31	27.62	54.07	3.24	27.60	54.39
4.11	27.72	53.02	4.02	27.68	53.41	3.93	27.64	53.78	3.85	27.62	54.12	3.76	27.60	54.44	3.68	27.58	54.75
4.62	27.69	53.30	4.52	27.65	53.68	4.42	27.62	54.04	4.32	27.60	54.37	4.23	27.58	54.69	4.14	27.57	54.99
5.67	27.66	53.62	5.54	27.63	53.99	5.42	27.60	54.33	5.30	27.58	54.66	5.18	27.57	54.97	5.06	27.56	55.26
6.73	27.64	53.80	6.58	27.61	54.16	6.43	27.59	54.50	6.28	27.57	54.82	6.14	27.56	55.12	6.00	27.55	55.41
7.80	27.63	53.90	7.63	27.61	54.26	7.45	27.59	54.59	7.28	27.57	54.91	7.11	27.56	55.21	6.95	27.55	55.50
8.88	27.63	53.97	8.68	27.60	54.32	8.48	27.58	54.66	8.28	27.57	54.97	8.09	27.56	55.27	7.90	27.55	55.56
9.96	27.62	54.02	9.73	27.60	54.37	9.51	27.58	54.70	9.29	27.57	55.01	9.07	27.55	55.31	8.86	27.55	55.60
11.04	27.62	54.05	10.79	27.60	54.40	10.54	27.58	54.73	10.30	27.56	55.04	10.06	27.55	55.34	9.82	27.55	55.63
16.48	27.62	54.13	16.10	27.59	54.47	15.73	27.58	54.80	15.36	27.56	55.12	15.00	27.55	55.41	14.64	27.54	55.70

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(f) $\epsilon_p = 60°$; $\Gamma = 10°$; $\epsilon_r = 17.78°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
30	34.36	60.75	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	5.77	46.16	2.89	30.64	47.13	9.95	.2068	1.80
			5.0	–	–	–	–	–	–	–	–	5.22	42.45	3.37	30.08	49.69	13.12	.2398	2.13
			6.0	–	–	–	–	–	–	–	–	8.73	40.65	3.91	29.90	50.74	17.66	.2212	2.34
			7.0	–	–	–	–	–	–	–	–	8.96	39.60	4.46	29.81	51.32	23.06	.2085	2.50
			8.0	52.62	49.31	5.31	31.42	44.49	34.99	.2775	1.64	9.13	38.93	5.03	29.77	51.67	29.31	.1997	2.61
			9.0	54.01	47.44	5.85	30.91	46.16	47.19	.2725	1.65	9.29	38.54	5.58	29.76	51.86	36.32	.1935	2.69
			10.0	54.94	45.92	7.15	30.59	47.36	64.30	.2655	1.75	9.37	38.31	6.18	29.76	52.00	44.32	.1885	2.75
			12.0	55.33	43.20	8.52	30.46	47.80	90.16	.2613	1.90	9.41	37.95	6.51	29.68	52.06	54.38	.1782	2.89
			14.0	55.54	44.80	9.86	30.40	48.16	121.6	.2586	1.83	9.44	37.71	7.34	29.69	52.29	62.66	.1821	2.84
			16.0	55.66	44.54	11.62	30.35	48.34	157.3	.2567	1.85	9.44	37.28	9.69	29.69	52.50	109.4	.1755	2.93
			18.0	55.75	44.37	12.59	30.33	48.46	198.0	.2557	1.86	9.44	37.17	10.87	29.66	52.96	137.6	.1737	2.96
			20.0	55.81	44.25	13.96	30.31	48.54	243.4	.2546	1.87	9.47	37.09	12.06	29.66	52.60	169.5	.1724	2.98
			30.0	55.94	43.97	20.83	30.27	48.73	542.4	.2527	1.90	9.51	36.89	18.01	29.65	52.69	378.2	.1692	3.02
32	36.63	61.21	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	4.35	51.13	3.11	33.23	42.52	11.12	.2926	1.67
			5.0	–	–	–	–	–	–	–	–	7.56	45.66	3.58	32.32	47.56	14.75	.2318	1.94
			6.0	–	–	–	–	–	–	–	–	8.36	43.63	4.14	32.03	49.01	19.83	.2153	2.15
			7.0	–	–	–	–	–	–	–	–	8.72	42.49	4.73	31.91	49.75	25.91	.2039	2.28
			8.0	–	–	–	–	–	–	–	–	8.92	41.77	5.33	31.84	50.20	32.56	.1960	2.38
			10.0	–	–	–	–	–	–	–	–	9.14	40.94	6.75	31.77	50.70	45.92	.1861	2.51
			12.0	–	–	–	–	–	–	–	–	9.25	40.49	7.79	31.73	50.96	70.67	.1804	2.59
			14.0	–	–	–	–	–	–	–	–	9.31	40.22	9.04	31.72	51.21	96.15	.1769	2.63
			16.0	–	–	–	–	–	–	–	–	9.35	40.05	10.50	31.70	51.21	123.5	.1745	2.67
			18.0	–	–	–	–	–	–	–	–	9.38	39.93	11.95	31.70	51.26	155.6	.1729	2.69
			20.0	–	–	–	–	–	–	–	–	9.39	39.85	13.61	31.69	51.32	191.4	.1717	2.71
			30.0	52.11	50.74	23.73	33.58	42.47	674.6	.2523	1.52	9.44	39.65	19.14	31.68	51.44	427.3	.1689	2.75
34	38.89	61.31	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	6.19	49.71	3.81	34.91	44.12	16.81	.2240	1.72
			6.0	–	–	–	–	–	–	–	–	7.67	46.99	4.39	34.30	46.64	22.29	.2100	1.94
			7.0	–	–	–	–	–	–	–	–	8.25	45.68	5.01	34.09	47.71	29.06	.1999	2.07
			8.0	–	–	–	–	–	–	–	–	8.56	44.83	5.64	33.98	48.33	36.95	.1929	2.16
			10.0	–	–	–	–	–	–	–	–	8.87	43.92	6.94	33.87	48.98	55.97	.1840	2.28
			12.0	–	–	–	–	–	–	–	–	9.03	43.44	8.25	33.82	49.31	79.25	.1785	2.35
			14.0	–	–	–	–	–	–	–	–	9.11	43.15	9.58	33.80	49.51	106.4	.1758	2.39
			16.0	–	–	–	–	–	–	–	–	9.17	42.97	10.91	33.78	49.61	137.6	.1737	2.42
			18.0	–	–	–	–	–	–	–	–	9.20	42.84	12.24	33.77	49.72	174.6	.1722	2.44
			20.0	–	–	–	–	–	–	–	–	9.23	42.75	13.68	33.76	49.78	214.4	.1712	2.45
			30.0	–	–	–	–	–	–	–	–	9.29	42.54	20.28	33.74	49.91	479.8	.1687	2.49
36	41.13	61.64	4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	5.82	51.58	4.70	37.13	42.29	25.61	.2044	1.68
			7.0	–	–	–	–	–	–	–	–	7.24	49.42	5.37	36.37	44.63	32.81	.1962	1.84
			8.0	–	–	–	–	–	–	–	–	7.81	48.35	6.08	36.05	45.66	41.52	.1900	1.94
			9.0	–	–	–	–	–	–	–	–	8.34	47.23	7.34	35.89	46.36	62.71	.1821	2.05
			10.0	–	–	–	–	–	–	–	–	8.58	46.57	8.73	35.81	47.14	88.73	.1776	2.11
			14.0	–	–	–	–	–	–	–	–	8.71	46.34	10.13	35.76	47.41	119.6	.1748	2.15
			16.0	–	–	–	–	–	–	–	–	8.80	46.19	11.63	35.73	47.58	155.1	.1729	2.18
			18.0	–	–	–	–	–	–	–	–	8.85	46.09	12.96	35.71	47.70	195.4	.1716	2.19
			20.0	–	–	–	–	–	–	–	–	8.89	45.99	14.36	35.70	47.78	240.4	.1707	2.21
			30.0	–	–	–	–	–	–	–	–	8.98	45.85	21.45	35.67	47.97	535.7	.1685	2.24
38	43.36	62.02	4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			7.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			8.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			10.0	–	–	–	–	–	–	–	–	6.95	51.46	5.82	38.71	42.73	71.22	.1803	1.78
			12.0	–	–	–	–	–	–	–	–	7.51	50.59	6.27	38.47	43.74	110.1	.1764	1.83
			14.0	–	–	–	–	–	–	–	–	7.79	50.12	12.74	38.36	44.24	134.5	.1739	1.90
			16.0	–	–	–	–	–	–	–	–	7.95	49.83	12.93	38.30	44.54	177.2	.1722	1.92
			18.0	–	–	–	–	–	–	–	–	8.06	49.64	13.02	38.26	44.74	219.5	.1711	1.94
			20.0	–	–	–	–	–	–	–	–	8.12	49.51	15.21	38.23	44.87	266.9	.1703	1.95
			30.0	–	–	–	–	–	–	–	–	8.28	49.21	22.71	38.17	45.16	601.6	.1683	1.98
40	45.67	62.43	4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			7.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			8.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			10.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			14.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			16.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			18.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			20.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			30.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
42	47.77	62.87	4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			7.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			8.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			10.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			14.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			16.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			18.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			20.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			30.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(f) $\epsilon_p = 60°$; $\Gamma = 10°$, $\epsilon_r = 17.78°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
-	-	-	-	-	-	2.31	31.73	43.60	2.23	31.03	45.75	2.17	30.66	47.06	2.12	30.42	48.06
2.81	30.36	48.33	2.74	30.17	49.23	2.68	30.02	49.98	2.62	29.92	50.62	2.56	29.83	51.19	2.51	29.76	51.71
3.29	29.95	50.43	3.22	29.85	51.06	3.15	29.77	51.63	3.08	29.71	52.14	3.01	29.66	52.60	2.95	29.62	53.03
3.82	29.81	51.37	3.73	29.73	51.92	3.65	29.68	52.43	3.57	29.63	52.89	3.49	29.60	53.31	3.41	29.57	53.71
4.36	29.74	51.89	4.26	29.68	52.41	4.16	29.63	52.88	4.07	29.60	53.32	3.98	29.57	53.73	3.89	29.55	54.11
4.91	29.70	52.22	4.80	29.65	52.72	4.69	29.61	53.17	4.58	29.58	53.60	4.48	29.55	53.99	4.38	29.53	54.36
6.03	29.66	52.60	5.89	29.62	53.07	5.75	29.58	53.51	5.62	29.56	53.92	5.49	29.54	54.30	5.37	29.52	54.66
7.17	29.64	52.80	7.00	29.60	53.26	6.84	29.57	53.69	6.68	29.55	54.09	6.52	29.53	54.47	6.37	29.51	54.83
8.31	29.63	52.92	8.12	29.59	53.37	7.93	29.56	53.80	7.74	29.54	54.19	7.56	29.52	54.57	7.38	29.51	54.92
9.46	29.62	52.99	9.24	29.59	53.45	9.02	29.56	53.87	8.81	29.54	54.26	8.60	29.52	54.63	8.40	29.51	54.99
10.62	29.62	53.04	10.36	29.58	53.50	10.12	29.56	53.92	9.88	29.54	54.31	9.65	29.52	54.68	9.42	29.51	55.03
11.77	29.62	53.08	11.49	29.58	53.53	11.22	29.55	53.95	10.96	29.53	54.34	10.70	29.52	54.71	10.45	29.51	55.06
17.58	29.61	53.17	17.16	29.58	53.62	16.75	29.55	54.03	16.36	29.53	54.42	15.97	29.52	54.79	15.59	29.51	55.14
-	-	-	-	-	-	-	-	-	2.38	34.28	41.00	2.27	33.11	44.46	2.21	32.66	46.12
2.97	32.78	45.63	2.88	32.40	47.20	2.81	32.16	48.34	2.74	31.99	49.25	2.68	31.86	50.02	2.62	31.77	50.69
3.48	32.09	48.71	3.39	31.93	49.62	3.31	31.81	50.40	3.23	31.72	51.07	3.16	31.65	51.67	3.09	31.60	52.21
4.03	31.88	49.91	3.93	31.77	50.67	3.84	31.69	51.34	3.75	31.63	51.94	3.67	31.58	52.47	3.59	31.54	52.97
4.61	31.79	50.56	4.50	31.70	51.25	4.39	31.63	51.87	4.29	31.58	52.43	4.19	31.54	52.94	4.10	31.51	53.41
5.20	31.74	50.95	5.07	31.66	51.61	4.95	31.60	52.21	4.83	31.56	52.74	4.72	31.52	53.24	4.61	31.50	53.69
6.39	31.68	51.40	6.23	31.62	52.03	6.09	31.57	52.59	5.94	31.53	53.10	5.80	31.50	53.58	5.67	31.48	54.02
7.60	31.66	51.64	7.41	31.60	52.24	7.24	31.55	52.79	7.06	31.52	53.29	6.90	31.49	53.76	6.73	31.48	54.20
8.82	31.64	51.78	8.60	31.59	52.37	8.39	31.54	52.91	8.19	31.51	53.41	8.00	31.49	53.87	7.81	31.47	54.30
10.04	31.63	51.87	9.79	31.58	52.46	9.56	31.54	52.99	9.33	31.51	53.48	9.11	31.49	53.94	8.89	31.47	54.37
11.27	31.63	51.93	10.99	31.57	52.51	10.73	31.54	53.04	10.47	31.51	53.54	10.22	31.48	53.99	9.97	31.47	54.42
12.50	31.62	51.97	12.19	31.57	52.55	11.90	31.53	53.08	11.61	31.50	53.57	11.33	31.48	54.03	11.06	31.47	54.45
18.66	31.61	52.07	18.21	31.56	52.65	17.77	31.53	53.17	17.34	31.50	53.66	16.92	31.48	54.11	16.51	31.47	54.53
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.31	35.11	43.43
-	-	-	3.05	34.91	44.14	2.95	34.40	46.19	2.87	34.11	47.58	2.80	33.93	48.65	2.75	33.79	49.55
3.67	34.36	46.38	3.57	34.07	47.82	3.47	33.88	48.93	3.39	33.75	49.84	3.31	33.66	50.62	3.23	33.58	51.31
4.26	34.02	48.07	4.14	33.84	49.17	4.04	33.72	50.08	3.94	33.63	50.86	3.85	33.56	51.55	3.76	33.51	52.17
4.86	33.88	48.92	4.74	33.74	49.89	4.62	33.64	50.71	4.51	33.57	51.43	4.40	33.52	52.07	4.30	33.48	52.66
5.48	33.81	49.42	5.34	33.69	50.32	5.21	33.60	51.10	5.09	33.54	51.79	4.96	33.50	52.41	4.85	33.46	52.97
6.75	33.73	49.97	6.58	33.63	50.81	6.41	33.56	51.54	6.26	33.51	52.19	6.11	33.47	52.79	5.96	33.45	53.33
8.03	33.70	50.26	7.82	33.61	51.07	7.63	33.54	51.78	7.45	33.50	52.41	7.27	33.46	52.99	7.09	33.44	53.52
9.32	33.68	50.43	9.08	33.59	51.22	8.86	33.53	51.91	8.64	33.49	52.54	8.43	33.46	53.11	8.23	33.44	53.64
10.62	33.66	50.54	10.34	33.58	51.32	10.09	33.52	52.00	9.84	33.48	52.62	9.60	33.45	53.19	9.37	33.43	53.71
11.91	33.66	50.61	11.61	33.58	51.38	11.32	33.52	52.06	11.04	33.48	52.68	10.78	33.45	53.24	10.52	33.43	53.77
13.22	33.65	50.66	12.88	33.57	51.43	12.56	33.52	52.11	12.25	33.48	52.72	11.95	33.45	53.28	11.66	33.43	53.80
19.75	33.64	50.78	19.24	33.56	51.54	18.76	33.51	52.21	18.30	33.47	52.82	17.86	33.45	53.37	17.42	33.43	53.89
-	-	-	-	-	-	3.11	36.96	42.87	3.00	36.35	45.39	2.92	36.03	47.00	2.84	35.83	48.22
3.92	37.13	42.25	3.76	36.36	45.55	3.64	36.02	47.09	3.54	35.81	48.37	3.45	35.67	49.42	3.37	35.57	50.30
4.49	36.32	45.51	4.35	35.99	47.27	4.23	35.78	48.57	4.12	35.65	49.61	4.02	35.55	50.50	3.93	35.49	51.28
5.13	36.08	46.76	4.98	35.84	48.21	4.85	35.68	49.34	4.72	35.58	50.29	4.61	35.50	51.11	4.50	35.45	51.83
5.78	35.95	47.45	5.62	35.76	48.76	5.47	35.63	49.81	5.33	35.54	50.70	5.20	35.47	51.48	5.08	35.43	52.18
7.12	35.84	48.19	6.92	35.68	49.36	6.74	35.57	50.33	6.57	35.50	51.17	6.41	35.44	51.91	6.25	35.41	52.58
8.47	35.78	48.56	8.24	35.64	49.67	8.02	35.54	50.61	7.82	35.48	51.42	7.63	35.43	52.14	7.44	35.40	52.79
9.83	35.75	48.77	9.56	35.62	49.86	9.31	35.53	50.77	9.08	35.47	51.57	8.86	35.42	52.28	8.64	35.40	52.92
11.20	35.74	48.91	10.89	35.61	49.97	10.61	35.52	50.87	10.34	35.46	51.66	10.09	35.42	82.36	9.84	35.39	53.00
12.57	35.72	49.00	12.23	35.60	50.05	11.91	35.51	50.95	11.61	35.46	51.73	11.32	35.42	52.42	11.05	35.39	53.06
13.94	35.71	49.07	13.56	35.59	50.11	13.21	35.51	51.00	12.88	35.45	51.77	12.56	35.41	52.47	12.25	35.39	53.10
20.83	35.70	49.22	20.27	35.58	50.24	19.75	35.50	51.11	19.25	35.45	51.88	18.77	35.41	52.57	18.31	35.39	53.19
-	-	-	-	-	-	-	-	-	3.15	38.89	42.04	3.04	38.23	44.87	2.96	37.91	46.64
-	-	-	4.00	39.26	40.68	3.82	38.29	44.58	3.70	37.92	46.56	3.60	37.71	48.00	3.51	37.57	49.16
4.83	39.44	40.04	4.58	38.29	44.61	4.43	37.91	46.66	4.31	37.69	48.13	4.20	37.56	49.30	4.09	37.47	50.29
5.43	38.55	43.41	5.23	38.02	46.00	5.08	37.76	47.67	4.94	37.60	48.95	4.81	37.49	50.01	4.69	37.42	50.92
6.11	38.28	44.63	5.90	37.89	46.76	5.79	37.68	48.26	5.58	37.54	49.45	5.44	37.45	50.45	5.30	37.40	51.31
7.50	38.06	45.77	7.27	37.77	47.56	7.06	37.60	48.90	6.88	37.49	50.00	6.70	37.42	50.94	6.54	37.37	51.76
8.92	37.97	46.30	8.65	37.72	47.96	8.41	37.57	49.24	8.19	37.47	50.29	7.98	37.40	51.20	7.79	37.36	52.00
10.35	37.92	46.61	10.04	37.69	48.19	9.77	37.55	49.43	9.51	37.45	50.46	9.27	37.39	51.35	9.04	37.36	52.14
11.79	37.89	46.80	11.44	37.67	48.34	11.13	37.53	49.55	10.84	37.45	50.57	10.56	37.39	51.45	10.30	37.35	52.23
19.24	37.87	46.92	12.84	37.66	48.44	12.49	37.52	49.64	12.17	37.44	50.64	11.86	37.38	51.52	11.56	37.35	52.29
14.68	37.85	47.01	14.23	37.65	48.51	13.86	37.52	49.70	13.50	37.44	50.70	13.16	37.38	51.56	12.83	37.35	52.34
21.94	37.82	47.22	21.30	37.63	48.68	20.72	37.51	49.84	20.18	37.43	50.82	19.67	37.38	51.68	19.18	37.35	52.44
-	-	-	-	-	-	-	-	-	-	-	-	3.18	40.67	41.75	3.07	40.06	44.66
-	-	-	-	-	-	4.04	41.12	39.96	3.87	40.15	44.14	3.75	39.79	46.29	3.65	39.59	47.84
-	-	-	4.90	41.49	38.67	4.64	40.17	44.04	4.50	39.79	46.30	4.37	39.58	47.90	4.26	39.45	49.18
-	-	-	5.51	40.47	42.59	5.31	39.91	45.51	5.15	39.65	47.35	5.01	39.49	48.75	4.89	39.39	49.90
-	-	-	6.20	40.20	43.91	5.99	39.79	46.31	5.82	39.57	47.96	5.67	39.45	49.26	5.52	39.36	50.35
7.96	40.71	41.56	7.63	39.97	45.14	7.39	39.67	47.15	7.18	39.50	48.63	6.99	39.40	49.83	6.82	39.34	50.85
9.44	40.44	42.73	9.08	39.88	45.71	8.80	39.62	47.57	8.55	39.47	48.97	8.33	39.38	50.13	8.12	39.32	51.12
10.94	40.32	43.31	10.53	39.83	46.04	10.22	39.59	47.81	9.96	39.45	49.18	9.68	39.37	50.31	9.43	39.32	51.28
12.45	40.25	43.64	12.00	39.80	46.24	11.66	39.57	47.96	11.32	39.44	49.31	11.03	39.36	50.42	10.75	39.31	51.38
13.97	40.21	43.86	13.47	39.78	46.37	13.07	39.56	48.07	12.71	39.43	49.39	12.38	39.36	50.50	12.07	39.31	51.45
15.49	40.18	44.01	14.95	39.77	46.47	14.50	39.55	48.14	14.11	39.43	49.46	13.74	39.35	50.55	13.39	39.31	51.50
23.13	40.11	44.35	22.34	39.73	46.69	21.68	39.54	48.32	21.09	39.42	49.60	20.54	39.35	50.68	20.02	39.30	51.61
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.19	42.35	41.96
-	-	-	-	-	-	-	-	-	4.06	42.76	40.15	3.90	41.95	44.08	3.78	41.63	46.28
-	-	-	-	-	-	4.91	43.04	39.03	4.69	41.99	43.87	4.54	41.64	46.21	4.42	41.45	47.89
-	-	-	-	-	-	5.57	42.28	42.30	5.37	41.76	45.32	5.21	41.51	47.26	5.07	41.37	48.75
-	-	-	-	-	-	6.27	42.03	43.61	6.07	41.65	46.12	5.89	41.45	47.88	5.74	41.34	49.26
-	-	-	8.05	42.54	41.10	7.72	41.83	44.84	7.48	41.54	46.98	7.28	41.39	48.56	7.09	41.30	49.84
-	-	-	9.55	42.29	42.26	9.19	41.74	45.42	8.91	41.50	47.40	8.67	41.36	48.91	8.45	41.28	50.15
-	-	-	11.07	42.17	42.84	10.67	41.70	45.75	10.36	41.47	47.65	10.07	41.35	49.12	9.81	41.28	50.32
-	-	-	12.60	42.11	43.18	12.16	41.67	45.96	11.80	41.46	47.81	11.48	41.34	49.25	11.19	41.27	50.44
-	-	-	14.14	42.07	43.40	13.65	41.65	46.10	13.25	41.45	47.92	12.89	41.33	49.34	12.56	41.27	50.52
-	-	-	15.69	42.04	43.56	15.15	41.64	46.19	14.71	41.44	47.99	14.31	41.33	49.40	13.94	41.27	50.57
-	-	-	23.43	41.98	43.91	23.64	41.61	46.42	21.99	41.42	48.17	21.40	41.32	49.55	20.85	41.26	50.70

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(g) $\epsilon_p = 60°$; $\Gamma = 20°$; $\epsilon_r = 39.08°$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	2.05	66.49	3.0	66.47	20.95	1.07	1.90	66.19	1.19	.9018	2.86	66.48	20.80	1.07	1.90	66.19	1.16	.9012	2.90
			4.0	66.47	15.89	1.09	1.89	66.27	1.25	.8758	3.79	66.48	15.74	1.08	1.89	66.27	1.21	.8747	3.86
			5.0	66.48	12.92	1.12	1.89	66.32	1.31	.8500	4.70	66.49	12.77	1.11	1.89	66.32	1.26	.8484	4.80
			6.0	66.48	10.97	1.14	1.88	66.35	1.38	.8251	5.59	66.49	10.83	1.13	1.88	66.35	1.32	.8228	5.74
			7.0	66.48	9.60	1.17	1.88	66.37	1.45	.8011	6.46	66.49	9.46	1.15	1.88	66.37	1.37	.7981	6.65
			8.0	66.48	8.57	1.19	1.88	66.38	1.53	.7781	7.31	66.49	8.42	1.17	1.88	66.38	1.43	.7747	7.56
			10.0	66.48	7.15	1.24	1.88	66.40	1.68	.7350	8.95	66.49	6.99	1.22	1.88	66.40	1.56	.7293	9.34
			12.0	66.48	6.21	1.30	1.88	66.42	1.86	.6957	10.53	66.49	6.05	1.26	1.88	66.42	1.70	.6878	11.07
			14.0	66.48	5.55	1.35	1.88	66.42	2.04	.6599	12.03	66.49	5.38	1.31	1.88	66.43	1.85	.6497	12.75
			16.0	66.48	5.06	1.41	1.88	66.43	2.24	.6274	13.47	66.49	4.89	1.36	1.88	66.43	2.00	.6146	14.39
			18.0	66.48	4.68	1.47	1.88	66.44	2.45	.5978	14.84	66.49	4.51	1.42	1.88	66.44	2.17	.5825	15.97
			20.0	66.48	4.39	1.53	1.88	66.44	2.68	.5709	16.14	66.49	4.21	1.47	1.88	66.44	2.35	.5530	17.51
			30.0	66.48	3.54	1.85	1.88	66.45	4.05	.4690	21.74	66.49	3.35	1.75	1.88	66.46	3.41	.4382	24.49
4	4.12	65.85	3.0	65.75	22.54	1.15	3.81	65.19	1.40	.8172	2.73	66.80	22.20	1.13	3.80	65.21	1.33	.8150	2.81
			4.0	65.78	17.42	1.20	3.78	65.37	1.54	.7733	3.60	66.82	17.09	1.18	3.78	65.38	1.45	.7695	3.72
			5.0	65.79	14.46	1.25	3.77	65.47	1.70	.7318	4.42	66.82	14.13	1.22	3.77	65.48	1.57	.7261	4.61
			6.0	65.80	12.52	1.30	3.77	65.53	1.87	.6934	5.21	66.83	12.19	1.27	3.77	65.54	1.71	.6856	5.48
			7.0	65.80	11.17	1.36	3.76	65.57	2.05	.6582	5.96	66.83	10.82	1.32	3.76	65.58	1.85	.6480	6.32
			8.0	65.80	10.17	1.41	3.76	65.60	2.25	.6261	6.68	66.83	9.83	1.37	3.76	65.61	2.01	.6134	7.14
			10.0	65.81	8.81	1.53	3.76	65.64	2.68	.5701	8.02	66.83	8.45	1.47	3.76	65.65	2.35	.5523	8.70
			12.0	65.81	7.94	1.66	3.76	65.67	3.18	.5238	9.23	66.83	7.56	1.58	3.76	65.68	2.74	.5007	10.17
			14.0	65.81	7.34	1.79	3.76	65.69	3.75	.4854	10.32	66.83	6.95	1.69	3.76	65.70	3.18	.4572	11.54
			16.0	65.81	6.90	1.92	3.76	65.70	4.37	.4535	11.29	66.83	6.50	1.81	3.76	65.71	3.66	.4204	12.82
			18.0	65.81	6.58	2.06	3.76	65.71	5.07	.4271	12.17	66.83	6.17	1.93	3.76	65.72	4.20	.3894	14.01
			20.0	65.81	6.33	2.21	3.76	65.72	5.83	.4049	12.95	66.83	5.91	2.06	3.76	65.73	4.78	.3630	15.11
			30.0	65.81	5.67	2.96	3.76	65.74	10.74	.3362	15.72	66.83	5.22	2.73	3.76	65.75	8.51	.2787	19.40
6	6.21	65.23	3.0	65.01	24.25	1.23	5.71	64.17	1.65	.7644	2.60	65.12	23.70	1.21	5.71	64.20	1.53	.7398	2.72
			4.0	65.08	19.08	1.31	5.67	64.45	1.89	.6891	3.41	65.17	18.55	1.27	5.67	64.48	1.72	.6814	3.59
			5.0	65.11	16.13	1.39	5.66	64.60	2.16	.6391	4.15	65.18	15.60	1.34	5.66	64.63	1.94	.6278	4.43
			6.0	65.12	14.24	1.48	5.65	64.70	2.47	.5950	4.85	65.19	13.69	1.42	5.65	64.73	2.19	.5799	5.23
			7.0	65.13	12.92	1.57	5.65	64.76	2.82	.5565	5.49	65.19	12.37	1.50	5.65	64.79	2.46	.5375	5.99
			8.0	65.14	11.97	1.66	5.64	64.81	3.19	.5229	6.09	65.19	11.40	1.58	5.64	64.83	2.75	.5000	6.72
			10.0	65.14	10.70	1.86	5.64	64.87	4.06	.4653	7.15	65.20	10.10	1.75	5.64	64.90	3.42	.4377	8.07
			12.0	65.14	9.90	2.06	5.64	64.91	5.08	.4269	8.05	65.20	9.28	1.93	5.64	64.93	4.20	.3893	9.28
			14.0	65.14	9.37	2.28	5.64	64.93	6.25	.3951	8.81	65.20	8.73	2.12	5.64	64.96	5.10	.3514	10.36
			16.0	65.15	9.00	2.50	5.64	64.95	7.58	.3706	9.44	65.20	8.34	2.32	5.64	64.98	6.11	.3215	11.31
			18.0	65.15	8.73	2.73	5.64	64.96	9.08	.3514	9.98	65.20	8.05	2.52	5.64	64.99	7.25	.2978	12.14
			20.0	65.15	8.52	2.96	5.64	64.97	10.74	.3362	10.42	65.20	7.83	2.73	5.64	65.00	8.50	.2788	12.88
			30.0	65.15	8.00	4.18	5.64	64.99	21.58	.2939	11.81	65.20	7.28	3.80	5.64	65.03	16.69	.2243	15.39
8	8.32	64.65	3.0	64.25	26.07	1.32	7.63	63.11	1.92	.6818	2.48	64.45	25.28	1.28	7.61	63.18	1.75	.6744	2.62
			4.0	64.38	20.86	1.42	7.57	63.51	2.29	.6200	3.22	64.53	20.10	1.37	7.56	63.57	2.04	.6077	3.46
			5.0	64.43	17.94	1.54	7.55	63.72	2.72	.5666	3.90	64.56	17.17	1.48	7.54	63.78	2.38	.5491	4.24
			6.0	64.45	16.10	1.66	7.54	63.85	3.21	.5217	4.50	64.57	15.31	1.58	7.53	63.90	2.76	.4989	4.98
			7.0	64.47	14.84	1.79	7.53	63.93	3.77	.4841	5.05	64.58	14.03	1.70	7.53	63.99	3.19	.4561	5.66
			8.0	64.47	13.94	1.93	7.53	64.00	4.39	.4527	5.54	64.58	13.11	1.81	7.52	64.05	3.67	.4199	6.30
			10.0	64.48	12.76	2.21	7.52	64.07	5.85	.4046	6.37	64.59	11.89	2.06	7.52	64.13	4.79	.3630	7.45
			12.0	64.49	12.04	2.50	7.52	64.12	7.58	.3705	7.02	64.59	11.14	2.32	7.52	64.18	6.11	.3216	8.42
			14.0	64.49	11.57	2.81	7.52	64.15	9.61	.3459	7.54	64.59	10.65	2.59	7.52	64.21	7.65	.2911	9.24
			16.0	64.49	11.25	3.12	7.52	64.17	11.94	.3278	7.95	64.59	10.31	2.86	7.52	64.23	9.40	.2683	9.92
			18.0	64.49	11.02	3.44	7.52	64.19	14.56	.3142	8.28	64.59	10.07	3.15	7.52	64.25	11.38	.2509	10.50
			20.0	64.49	10.85	3.76	7.52	64.20	17.48	.3038	8.54	64.59	9.88	3.43	7.52	64.26	13.59	.2374	10.98
			30.0	64.50	10.43	5.43	7.52	64.22	36.64	.2763	9.28	64.59	9.43	4.91	7.52	64.29	28.01	.2012	12.47
10	10.45	64.09	3.0	63.46	28.03	1.41	9.54	62.00	2.23	.6279	2.36	63.77	26.95	1.36	9.57	62.11	1.99	.6174	2.53
			4.0	63.67	22.77	1.55	9.46	62.54	2.75	.5635	3.05	63.90	21.74	1.48	9.45	62.64	2.39	.5463	3.32
			5.0	63.75	19.88	1.70	9.43	62.81	3.37	.5099	3.65	63.95	18.85	1.62	9.43	62.90	2.88	.4861	4.06
			6.0	63.79	18.09	1.86	9.42	62.97	4.09	.4668	4.18	63.97	17.03	1.76	9.41	63.07	3.44	.4366	4.73
			7.0	63.81	16.89	2.03	9.41	63.08	4.92	.4321	4.63	63.98	15.80	1.91	9.41	63.17	4.07	.3960	5.34
			8.0	63.82	16.04	2.21	9.41	63.15	5.86	.4043	5.03	63.99	14.93	2.06	9.40	63.25	4.75	.3629	5.89
			10.0	63.83	14.95	2.58	9.40	63.25	8.07	.3636	5.67	64.00	13.80	2.38	9.40	63.34	6.47	.3132	6.84
			12.0	63.84	14.30	2.96	9.40	63.30	10.74	.3362	6.14	64.00	13.12	2.72	9.40	63.40	8.48	.2790	7.61
			14.0	63.85	13.88	3.36	9.40	63.34	13.86	.3173	6.50	64.00	12.68	3.07	9.40	63.44	10.85	.2549	8.23
			16.0	63.85	13.60	3.76	9.40	63.36	17.46	.3038	6.77	64.00	12.38	3.43	9.39	63.46	13.56	.2375	8.72
			18.0	63.85	13.40	4.17	9.40	63.38	21.53	.2940	6.98	64.00	12.17	3.79	9.39	63.48	16.62	.2246	9.12
			20.0	63.85	13.26	4.59	9.40	63.39	26.07	.2865	7.14	64.00	12.01	4.16	9.39	63.49	20.04	.2148	9.44
			30.0	63.86	12.90	6.70	9.40	63.42	55.90	.2676	7.57	64.01	11.63	6.05	9.39	63.53	42.47	.1895	10.37
12	12.60	63.56	3.0	62.62	30.11	1.51	11.47	60.81	2.58	.5816	2.23	63.10	28.72	1.44	11.44	61.01	2.26	.5677	2.43
			4.0	62.95	24.80	1.68	11.36	61.51	3.27	.5170	2.87	63.29	23.47	1.59	11.34	61.67	2.80	.4949	3.19
			5.0	63.07	21.95	1.77	11.32	61.85	4.12	.4654	3.41	63.36	20.62	1.76	11.31	62.01	3.45	.4356	3.87
			6.0	63.12	20.20	2.07	11.31	62.05	5.12	.4254	3.86	63.39	18.85	1.94	11.29	62.20	4.22	.3885	4.48
			7.0	63.15	19.05	2.29	11.30	62.18	6.28	.3944	4.24	63.41	17.67	2.12	11.29	62.33	5.10	.3512	5.01
			8.0	63.17	18.25	2.51	11.29	62.27	7.60	.3703	4.56	63.42	16.84	2.32	11.28	62.42	6.10	.3217	5.49
			10.0	63.19	17.24	2.96	11.28	62.38	10.74	.3362	5.05	63.43	15.79	2.72	11.28	62.54	8.47	.2792	6.28
			12.0	63.21	16.65	3.44	11.28	62.44	14.54	.3143	5.40	63.43	15.17	3.14	11.27	62.60	11.34	.2512	6.88
			14.0	63.21	16.28	3.92	11.28	62.48	19.01	.2996	5.65	63.44	14.77	3.57	11.27	62.64	14.70	.2320	7.34
			16.0	63.22	16.03	4.42	11.28	62.51	24.16	.2893	5.84	63.44	14.51	4.01	11.27	62.67	18.58	.2185	7.70
			18.0	63.22	15.85	4.92	11.28	62.53	30.00	.2819	5.97	63.44	14.32	4.45	11.27	62.69	22.96	.2087	7.98
			20.0	63.22	15.73	5.42	11.28	62.54	36.51	.2764	6.08	63.44	14.18	4.90	11.27	62.70	27.85	.2014	8.20
			30.0	63.23	15.42	7.98	11.27	62.57	79.33	.2627	6.35	63.45	13.85	7.18	11.27	62.74	60.01	.1828	8.80
14	14.77	63.07	3.0	61.73	32.36	1.61	13.42	59.53	2.97	.5415	2.11	62.41	30.58	1.53	13.36	59.84	2.55	.5244	2.34
			4.0	62.22	26.95	1.81	13.27	60.42	3.86	.4788	2.70	62.70	25.29	1.71	13.24	60.67	3.24	.4520	3.06
			5.0	62.38	24.13	2.04	13.22	60.84	4.97	.4303	3.18	62.79	22.47	1.91	13.19	61.08	4.09	.3949	3.68
			6.0	62.46	22.43	2.29	13.19	61.08	6.30	.3939	3.57	62.83	20.75	2.13	13.18	61.31	5.11	.3510	4.23
			7.0	62.50	21.32	2.55	13.18	61.23	7.85	.3665	3.88	62.85	19.62	2.35	13.17	61.46	6.28	.3175	4.70
			8.0	62.53	20.57	2.81	13.17	61.34	9.63	.3458	4.14	62.87	18.84	2.58	13.16	61.57	7.62	.2915	5.11
			10.0	62.56	19.62	3.36	13.17	61.46	13.85	.3174	4.52	62.89	17.85	3.07	13.15	61.69	10.80	.2553	5.75
			12.0	62.58	19.08	3.92	13.16	61.54	18.99	.2996	4.78	62.89	17.28	3.57	13.15	61.77	14.66	.2323	6.23
			14.0	62.58	18.74	4.50	13.16	61.58	25.05	.2880	4.96	62.90	16.92	4.08	13.15	61.81	19.21	.2168	6.58
			16.0	62.59	18.51	5.08	13.16	61.61	32.03	.2800	5.09	62.90	16.68	4.59	13.15	61.85	24.45	.2062	6.84
			18.0	62.59	18.36	5.67	13.16	61.63	39.94	.2742	5.18	62.90	16.51	5.12	13.15	61.87	30.38	.1985	7.04
			20.0	62.60	18.24	6.26	13.16	61.64	48.78	.2700	5.25	62.91	16.39	5.64	13.15	61.88	37.00	.1928	7.19
			30.0	62.60	17.97	9.25	13.15	61.68	106.9	.2597	5.44	62.91	16.10	8.32	13.15	61.92	80.56	.1787	7.61

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(g) $\epsilon_p = 60°$; $\Gamma = 20°$; $\epsilon_r = 39.08°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.06	1.90	66.19	1.06	1.90	66.19	1.06	1.90	66.19	1.06	1.90	66.19	1.06	1.90	66.19	1.06	1.90	66.19
1.08	1.89	66.27	1.08	1.89	66.27	1.08	1.89	66.27	1.08	1.89	66.27	1.08	1.89	66.27	1.07	1.89	66.28
1.10	1.89	66.32	1.10	1.89	66.32	1.10	1.89	66.32	1.10	1.89	66.32	1.09	1.89	66.32	1.09	1.89	66.32
1.12	1.88	66.35	1.12	1.88	66.35	1.12	1.88	66.35	1.12	1.88	66.35	1.11	1.88	66.35	1.11	1.88	66.35
1.15	1.88	66.37	1.14	1.88	66.37	1.16	1.88	66.37	1.14	1.88	66.37	1.13	1.88	66.37	1.13	1.88	66.37
1.17	1.88	66.38	1.16	1.88	66.38	1.16	1.88	66.38	1.16	1.88	66.38	1.15	1.88	66.39	1.15	1.88	66.39
1.21	1.88	66.40	1.21	1.88	66.40	1.20	1.88	66.41	1.20	1.88	66.41	1.19	1.88	66.41	1.19	1.88	66.41
1.26	1.88	66.42	1.25	1.88	66.42	1.25	1.88	66.42	1.24	1.88	66.42	1.23	1.88	66.42	1.23	1.88	66.42
1.31	1.88	66.43	1.30	1.88	66.43	1.29	1.88	66.43	1.28	1.88	66.43	1.28	1.88	66.43	1.27	1.88	66.43
1.36	1.88	66.43	1.35	1.88	66.44	1.34	1.88	66.44	1.33	1.88	66.44	1.32	1.88	66.44	1.31	1.88	66.44
1.41	1.88	66.44	1.40	1.88	66.44	1.39	1.88	66.44	1.38	1.88	66.44	1.37	1.88	66.44	1.36	1.88	66.44
1.46	1.88	66.44	1.45	1.88	66.45	1.44	1.88	66.45	1.42	1.88	66.45	1.41	1.88	66.45	1.40	1.88	66.45
1.73	1.88	66.46	1.71	1.88	66.46	1.70	1.88	66.46	1.68	1.88	66.46	1.66	1.88	66.46	1.64	1.88	66.46
1.13	3.80	65.21	1.13	3.80	65.21	1.12	3.80	65.21	1.12	3.80	65.22	1.12	3.80	65.22	1.12	3.80	65.22
1.17	3.78	65.38	1.17	3.78	65.39	1.16	3.78	65.39	1.16	3.78	65.39	1.16	3.78	65.39	1.15	3.78	65.39
1.22	3.77	65.48	1.21	3.77	65.48	1.21	3.77	65.48	1.20	3.77	65.48	1.20	3.77	65.49	1.19	3.77	65.49
1.26	3.77	65.54	1.25	3.77	65.54	1.25	3.77	65.54	1.24	3.77	65.55	1.24	3.77	65.55	1.23	3.77	65.55
1.31	3.76	65.58	1.30	3.76	65.58	1.29	3.76	65.59	1.29	3.76	65.59	1.28	3.76	65.59	1.27	3.76	65.59
1.36	3.76	65.61	1.35	3.76	65.61	1.34	3.76	65.62	1.33	3.76	65.62	1.32	3.76	65.62	1.31	3.76	65.62
1.46	3.76	65.65	1.45	3.76	65.66	1.44	3.76	65.66	1.43	3.76	65.66	1.41	3.76	65.66	1.40	3.76	65.66
1.57	3.76	65.68	1.55	3.76	65.68	1.54	3.76	65.68	1.52	3.76	65.69	1.51	3.76	65.69	1.50	3.76	65.69
1.68	3.76	65.70	1.66	3.76	65.70	1.64	3.76	65.70	1.63	3.76	65.71	1.61	3.76	65.71	1.59	3.76	65.71
1.79	3.76	65.71	1.77	3.76	65.71	1.75	3.76	65.72	1.73	3.76	65.72	1.71	3.76	65.72	1.69	3.76	65.72
1.91	3.76	65.72	1.89	3.76	65.72	1.86	3.76	65.73	1.84	3.76	65.73	1.82	3.76	65.73	1.80	3.76	65.73
2.03	3.76	65.73	2.01	3.76	65.73	1.98	3.76	65.73	1.95	3.76	65.74	1.93	3.76	65.74	1.90	3.76	65.74
2.68	3.76	65.75	2.64	3.76	65.75	2.60	3.76	65.76	2.56	3.76	65.76	2.51	3.76	65.76	2.47	3.76	65.76
1.20	5.71	64.21	1.20	5.71	64.22	1.19	5.71	64.22	1.19	5.70	64.23	1.18	5.70	64.23	1.18	5.70	64.24
1.27	5.67	64.49	1.26	5.67	64.49	1.25	5.67	64.50	1.25	5.67	64.50	1.24	5.67	64.51	1.23	5.67	64.51
1.34	5.66	64.64	1.33	5.66	64.64	1.32	5.66	64.65	1.31	5.66	64.65	1.30	5.65	64.66	1.30	5.65	64.66
1.41	5.65	64.73	1.40	5.65	64.73	1.39	5.65	64.74	1.38	5.65	64.74	1.37	5.65	64.75	1.36	5.65	64.75
1.49	5.65	64.79	1.47	5.65	64.80	1.46	5.64	64.80	1.45	5.64	64.81	1.44	5.64	64.81	1.43	5.64	64.82
1.57	5.64	64.84	1.55	5.64	64.84	1.54	5.64	64.85	1.52	5.64	64.85	1.51	5.64	64.86	1.50	5.64	64.86
1.73	5.64	64.90	1.72	5.64	64.91	1.70	5.64	64.91	1.68	5.64	64.92	1.66	5.64	64.92	1.64	5.64	64.93
1.91	5.64	64.94	1.89	5.64	64.95	1.86	5.64	64.95	1.84	5.64	64.96	1.82	5.64	64.96	1.80	5.64	64.97
2.10	5.64	64.97	2.07	5.64	64.97	2.04	5.64	64.98	2.01	5.64	64.98	1.98	5.64	64.99	1.96	5.64	64.99
2.29	5.64	64.98	2.25	5.64	64.99	2.22	5.64	65.00	2.19	5.64	65.00	2.15	5.64	65.01	2.12	5.64	65.01
2.48	5.64	65.00	2.44	5.64	65.00	2.41	5.64	65.01	2.37	5.64	65.01	2.33	5.64	65.02	2.29	5.64	65.03
2.68	5.64	65.01	2.64	5.64	65.01	2.60	5.64	65.02	2.55	5.64	65.02	2.51	5.64	65.03	2.47	5.64	65.04
3.73	5.64	65.03	3.66	5.64	65.04	3.59	5.64	65.05	3.53	5.64	65.05	3.46	5.64	65.06	3.39	5.64	65.06
1.27	7.61	63.19	1.27	7.61	63.20	1.26	7.61	63.21	1.25	7.61	63.22	1.25	7.61	63.23	1.24	7.60	63.24
1.37	7.56	63.58	1.36	7.56	63.59	1.35	7.56	63.60	1.34	7.56	63.61	1.33	7.56	63.62	1.32	7.56	63.63
1.46	7.54	63.79	1.45	7.54	63.80	1.44	7.54	63.80	1.43	7.54	63.81	1.42	7.54	63.82	1.41	7.54	63.83
1.57	7.53	63.91	1.56	7.53	63.92	1.54	7.53	63.93	1.53	7.53	63.94	1.51	7.53	63.95	1.50	7.53	63.96
1.68	7.53	64.00	1.66	7.53	64.01	1.64	7.52	64.02	1.63	7.52	64.03	1.61	7.52	64.04	1.59	7.52	64.05
1.79	7.52	64.06	1.77	7.52	64.07	1.75	7.52	64.08	1.73	7.52	64.09	1.71	7.52	64.10	1.69	7.52	64.11
2.03	7.52	64.14	2.01	7.52	64.15	1.98	7.52	64.16	1.95	7.52	64.17	1.93	7.52	64.18	1.90	7.52	64.19
2.29	7.52	64.19	2.25	7.52	64.20	2.22	7.52	64.21	2.19	7.52	64.22	2.15	7.52	64.23	2.12	7.52	64.24
2.55	7.52	64.22	2.51	7.52	64.23	2.47	7.52	64.24	2.43	7.52	64.25	2.39	7.52	64.26	2.35	7.52	64.27
2.82	7.52	64.24	2.77	7.52	64.25	2.72	7.52	64.26	2.68	7.52	64.28	2.63	7.52	64.29	2.59	7.52	64.30
3.09	7.52	64.26	3.04	7.52	64.27	2.99	7.52	64.28	2.93	7.52	64.29	2.88	7.52	64.30	2.83	7.52	64.31
3.37	7.52	64.27	3.31	7.52	64.28	3.25	7.52	64.29	3.19	7.52	64.30	3.13	7.52	64.32	3.07	7.52	64.33
4.82	7.52	64.30	4.73	7.52	64.31	4.63	7.52	64.32	4.54	7.52	64.33	4.44	7.51	64.35	4.35	7.51	64.36
1.35	9.52	62.13	1.34	9.52	62.15	1.33	9.52	62.17	1.32	9.51	62.19	1.32	9.51	62.21	1.31	9.51	62.23
1.47	9.45	62.65	1.46	9.45	62.67	1.45	9.45	62.69	1.43	9.44	62.70	1.42	9.44	62.72	1.41	9.44	62.74
1.60	9.42	62.92	1.58	9.42	62.94	1.57	9.42	62.95	1.55	9.42	62.97	1.54	9.42	62.99	1.52	9.42	63.00
1.74	9.41	63.08	1.72	9.41	63.10	1.70	9.41	63.12	1.68	9.41	63.13	1.66	9.41	63.15	1.64	9.41	63.16
1.88	9.41	63.19	1.86	9.40	63.21	1.84	9.40	63.22	1.82	9.40	63.24	1.79	9.40	63.26	1.77	9.40	63.27
2.03	9.40	63.27	2.01	9.40	63.28	1.98	9.40	63.30	1.95	9.40	63.32	1.93	9.40	63.33	1.90	9.40	63.35
2.35	9.40	63.36	2.31	9.40	63.38	2.28	9.40	63.40	2.24	9.40	63.41	2.21	9.40	63.43	2.18	9.39	63.45
2.68	9.40	63.42	2.64	9.40	63.44	2.59	9.39	63.46	2.55	9.39	63.47	2.51	9.39	63.49	2.46	9.39	63.51
3.02	9.39	63.46	2.97	9.39	63.48	2.92	9.39	63.49	2.86	9.39	63.51	2.81	9.39	63.53	2.76	9.39	63.55
3.37	9.39	63.48	3.31	9.39	63.50	3.25	9.39	63.52	3.19	9.39	63.54	3.13	9.39	63.56	3.07	9.39	63.57
3.72	9.39	63.50	3.65	9.39	63.52	3.59	9.39	63.54	3.52	9.39	63.56	3.45	9.39	63.57	3.38	9.39	63.59
4.08	9.39	63.51	4.01	9.39	63.53	3.93	9.39	63.55	3.85	9.39	63.57	3.77	9.39	63.59	3.70	9.39	63.61
5.93	9.39	63.55	5.81	9.39	63.57	5.69	9.39	63.58	5.57	9.39	63.60	5.45	9.39	63.62	5.33	9.39	63.64
1.43	11.43	61.04	1.42	11.43	61.07	1.41	11.42	61.10	1.40	11.42	61.14	1.39	11.41	61.17	1.38	11.41	61.20
1.58	11.34	61.70	1.56	11.34	61.73	1.55	11.33	61.76	1.53	11.33	61.78	1.52	11.33	61.81	1.50	11.33	61.84
1.74	11.31	62.03	1.72	11.31	62.06	1.70	11.30	62.09	1.68	11.30	62.11	1.66	11.30	62.14	1.65	11.30	62.16
1.91	11.29	62.23	1.89	11.29	62.26	1.87	11.29	62.28	1.84	11.29	62.31	1.82	11.29	62.33	1.80	11.28	62.36
2.10	11.28	62.36	2.07	11.28	62.39	2.04	11.28	62.41	2.01	11.28	62.44	1.98	11.28	62.46	1.95	11.28	62.49
2.28	11.28	62.45	2.25	11.28	62.48	2.22	11.28	62.50	2.18	11.28	62.53	2.15	11.28	62.56	2.12	11.27	62.58
2.68	11.28	62.56	2.63	11.27	62.59	2.59	11.27	62.62	2.55	11.27	62.64	2.50	11.27	62.67	2.46	11.27	62.70
3.09	11.27	62.63	3.03	11.27	62.66	2.98	11.27	62.68	2.92	11.27	62.71	2.87	11.27	62.74	2.82	11.27	62.77
3.51	11.27	62.67	3.44	11.27	62.70	3.38	11.27	62.73	3.31	11.27	62.76	3.25	11.27	62.78	3.19	11.27	62.81
3.93	11.27	62.70	3.86	11.27	62.73	3.78	11.27	62.76	3.71	11.27	62.78	3.64	11.27	62.81	3.56	11.27	62.84
4.37	11.27	62.72	4.28	11.27	62.75	4.20	11.27	62.78	4.11	11.27	62.80	4.03	11.27	62.83	3.95	11.27	62.86
4.81	11.27	62.73	4.71	11.27	62.76	4.62	11.27	62.79	4.52	11.27	62.82	4.43	11.27	62.85	4.33	11.27	62.88
7.04	11.27	62.77	6.89	11.27	62.80	6.75	11.27	62.83	6.60	11.27	62.86	6.46	11.27	62.89	6.31	11.27	62.91
1.51	13.35	59.89	1.50	13.34	59.94	1.48	13.34	59.99	1.47	13.33	60.04	1.46	13.32	60.09	1.44	13.31	60.13
1.69	13.23	60.71	1.67	13.23	60.76	1.65	13.22	60.80	1.64	13.22	60.84	1.62	13.21	60.88	1.60	13.21	60.92
1.89	13.19	61.12	1.86	13.19	61.16	1.84	13.18	61.20	1.82	13.18	61.24	1.79	13.18	61.27	1.77	13.18	61.31
2.10	13.17	61.35	2.07	13.17	61.39	2.04	13.17	61.43	2.01	13.17	61.47	1.98	13.16	61.51	1.95	13.16	61.54
2.32	13.16	61.50	2.28	13.16	61.54	2.25	13.16	61.58	2.21	13.16	61.62	2.18	13.15	61.66	2.14	13.15	61.70
2.54	13.16	61.61	2.50	13.16	61.65	2.46	13.15	61.69	2.42	13.15	61.73	2.38	13.15	61.76	2.34	13.15	61.80
3.01	13.15	61.74	2.96	13.15	61.78	2.91	13.15	61.82	2.86	13.15	61.86	2.81	13.15	61.90	2.75	13.14	61.93
3.50	13.15	61.81	3.44	13.15	61.85	3.37	13.15	61.89	3.31	13.14	61.93	3.24	13.14	61.97	3.18	13.14	62.01
4.00	13.15	61.86	3.92	13.15	61.90	3.85	13.14	61.94	3.77	13.14	61.98	3.70	13.14	62.02	3.62	13.14	62.06
4.50	13.15	61.89	4.42	13.14	61.93	4.33	13.14	61.97	4.24	13.14	62.01	4.15	13.14	62.05	4.07	13.14	62.09
5.02	13.15	61.91	4.92	13.14	61.95	4.82	13.14	61.99	4.72	13.14	62.03	4.62	13.14	62.07	4.52	13.14	62.11
5.53	13.14	61.92	5.42	13.14	61.97	5.31	13.14	62.01	5.20	13.14	62.05	5.09	13.14	62.09	4.98	13.14	62.13
8.15	13.14	61.96	7.98	13.14	62.01	7.81	13.14	62.05	7.64	13.14	62.09	7.47	13.14	62.13	7.30	13.14	62.17

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(g) $\epsilon_p = 60°$; $\Gamma = 20°$; $\epsilon_r = 39.08°$ - Continued

		$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
α, deg	δ_N, deg	ϵ_e, deg	M_∞	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	16.96	62.61	3.0	60.75	34.78	1.71	15.39	58.11	3.41	.5067	1.99	61.71	32.55	1.61	15.30	58.49	2.87	.4866	2.24
			4.0	61.45	29.24	1.95	15.18	59.25	4.52	.4472	2.53	62.11	27.20	1.83	15.13	59.72	3.73	.4159	2.92
			5.0	61.68	26.42	2.22	15.12	59.76	5.94	.4023	2.95	62.23	24.41	2.07	15.08	60.10	4.81	.3619	3.50
			6.0	61.79	24.76	2.51	15.09	60.04	7.65	.3696	3.29	62.29	22.73	2.32	15.06	60.38	6.11	.3217	3.98
			7.0	61.85	23.69	2.81	15.07	60.22	9.65	.3456	3.55	62.32	21.65	2.58	15.04	60.55	7.61	.2916	4.40
			8.0	61.89	22.97	3.12	15.06	60.34	11.94	.3278	3.76	62.34	20.90	2.85	15.04	60.67	9.34	.2690	4.74
			10.0	61.93	22.08	3.76	15.05	60.49	17.40	.3040	4.06	62.37	19.98	3.42	15.03	60.82	13.45	.2381	5.27
			12.0	61.95	21.57	4.41	15.04	60.57	24.15	.2894	4.25	62.38	19.44	3.99	15.03	60.90	18.45	.2189	5.65
			14.0	61.96	21.26	5.08	15.04	60.62	31.98	.2801	4.39	62.38	19.11	4.58	15.02	60.95	24.35	.2063	5.92
			16.0	61.97	21.05	5.75	15.04	60.65	41.06	.2736	4.48	62.39	18.89	5.18	15.02	60.98	31.15	.1977	6.11
			18.0	61.97	20.91	6.42	15.04	60.67	51.36	.2691	4.55	62.39	18.74	5.78	15.02	61.01	38.85	.1916	6.26
			20.0	61.98	20.80	7.10	15.04	60.69	62.86	.2658	4.60	62.39	18.63	6.39	15.02	61.02	47.46	.1871	6.37
			30.0	61.99	20.55	10.53	15.03	60.73	138.5	.2577	4.72	62.40	18.36	9.45	15.02	61.06	104.0	.1760	6.67
18	19.17	62.19	3.0	59.63	37.44	1.82	17.41	56.49	3.91	.4761	1.86	60.99	34.63	1.70	17.25	57.24	3.22	.4534	2.14
			4.0	60.64	31.67	2.10	17.11	57.96	5.26	.4208	2.36	61.52	29.19	1.95	17.03	58.50	4.27	.3856	2.78
			5.0	60.96	28.83	2.41	17.02	58.58	7.02	.3798	2.74	61.69	26.47	2.22	16.97	59.08	5.61	.3351	3.31
			6.0	61.10	27.19	2.74	16.98	58.96	9.16	.3506	3.03	61.77	24.78	2.52	16.94	59.40	7.21	.2984	3.75
			7.0	61.18	26.16	3.09	16.96	59.13	11.66	.3296	3.25	61.81	23.77	2.82	16.92	59.60	9.09	.2716	4.11
			8.0	61.23	25.46	3.44	16.95	59.27	14.54	.3143	3.42	61.84	23.07	3.13	16.91	59.73	11.25	.2518	4.40
			10.0	61.29	24.61	4.16	16.94	59.43	21.44	.2941	3.65	61.87	22.14	3.77	16.91	59.89	16.41	.2253	4.84
			12.0	61.32	24.13	4.91	16.93	59.52	29.85	.2821	3.80	61.88	21.65	4.43	16.90	59.99	22.69	.2092	5.14
			14.0	61.34	23.84	5.66	16.92	59.58	39.79	.2743	3.90	61.89	21.36	5.09	16.90	60.04	30.11	.1988	5.35
			16.0	61.35	23.64	6.42	16.92	59.62	51.25	.2691	3.97	61.90	21.13	5.77	16.90	60.08	38.66	.1917	5.50
			18.0	61.35	23.51	7.18	16.92	59.64	64.23	.2655	4.02	61.90	20.99	6.45	16.90	60.10	48.35	.1867	5.61
			20.0	61.36	23.41	7.95	16.92	59.66	78.74	.2628	4.06	61.90	20.89	7.13	16.89	60.12	59.16	.1830	5.69
			30.0	61.37	23.18	11.81	16.92	59.70	174.2	.2563	4.15	61.91	20.65	10.58	16.89	60.17	130.4	.1741	5.90
20	21.39	61.80	3.0	58.26	40.44	1.95	19.51	54.56	4.49	.4487	1.72	60.21	36.85	1.80	19.22	55.75	3.61	.4241	2.04
			4.0	59.75	34.26	2.25	19.07	56.51	6.09	.3987	2.20	60.94	31.27	2.08	18.94	57.31	4.86	.3599	2.64
			5.0	60.19	31.38	2.60	18.95	57.28	8.23	.3615	2.53	61.17	28.51	2.39	18.86	57.99	6.48	.3130	3.13
			6.0	60.39	29.74	2.98	18.89	57.69	10.83	.3355	2.78	61.27	26.90	2.71	18.82	58.36	8.43	.2798	3.50
			7.0	60.50	28.72	3.36	18.86	57.94	13.90	.3171	2.97	61.32	25.88	3.06	18.80	58.59	10.73	.2559	3.83
			8.0	60.56	28.04	3.76	18.85	58.10	17.44	.3039	3.11	61.35	25.20	3.41	18.79	58.74	13.36	.2385	4.08
			10.0	60.64	27.22	4.57	18.83	58.29	25.92	.2867	3.30	61.39	24.36	4.12	18.78	58.92	19.68	.2157	4.44
			12.0	60.68	26.76	5.40	18.82	58.39	36.27	.2766	3.42	61.41	23.89	4.86	18.78	59.02	27.38	.2020	4.68
			14.0	60.70	26.48	6.24	18.81	58.45	48.49	.2702	3.49	61.42	23.60	5.60	18.77	59.08	36.47	.1932	4.85
			16.0	60.72	26.29	7.09	18.81	58.49	62.59	.2658	3.55	61.43	23.40	6.36	18.77	59.12	46.96	.1873	4.97
			18.0	60.73	26.17	7.94	18.81	58.52	78.57	.2628	3.58	61.43	23.27	7.11	18.77	59.15	58.84	.1831	5.05
			20.0	60.73	26.07	8.79	18.81	58.54	96.42	.2606	3.61	61.44	23.18	7.87	18.77	59.17	72.12	.1801	5.12
			30.0	60.75	25.86	13.08	18.80	58.59	213.9	.2553	3.68	61.44	22.95	11.70	18.77	59.22	159.5	.1728	5.28
22	23.63	61.45	3.0	56.34	44.09	2.09	21.81	51.99	5.20	.4229	1.57	59.34	39.25	1.90	21.24	54.06	4.04	.3980	1.93
			4.0	58.73	37.08	2.41	21.07	54.84	7.02	.3797	2.03	60.34	33.45	2.20	20.86	56.01	5.50	.3381	2.51
			5.0	59.35	34.08	2.80	20.89	55.82	9.57	.3464	2.34	60.64	30.67	2.55	20.75	56.81	7.42	.2948	2.95
			6.0	59.62	32.42	3.22	20.82	56.32	12.69	.3233	2.55	60.77	29.08	2.92	20.71	57.24	9.76	.2647	3.30
			7.0	59.77	31.40	3.65	20.78	56.61	16.39	.3073	2.71	60.84	28.08	3.30	20.68	57.51	12.50	.2434	3.57
			8.0	59.86	30.72	4.09	20.75	56.80	20.65	.2958	2.83	60.89	27.42	3.68	20.67	57.68	15.67	.2281	3.78
			10.0	59.96	29.92	4.99	20.73	57.02	30.86	.2811	2.98	60.93	26.61	4.48	20.66	57.88	23.24	.2042	4.09
			12.0	60.01	29.47	5.90	20.72	57.14	43.35	.2724	3.04	60.96	26.16	5.29	20.65	57.99	32.44	.1964	4.28
			14.0	60.04	29.20	6.83	20.71	57.21	58.09	.2670	3.14	60.97	25.89	6.11	20.65	58.06	43.42	.1890	4.42
			16.0	60.06	29.02	7.76	20.71	57.26	75.11	.2634	3.18	60.98	25.70	6.94	20.64	58.10	56.02	.1840	4.51
			18.0	60.08	28.90	8.70	20.70	57.29	94.39	.2608	3.21	60.99	25.58	7.77	20.64	58.14	70.30	.1805	4.58
			20.0	60.09	28.81	9.64	20.70	57.32	115.9	.2590	3.23	60.99	25.49	8.61	20.64	58.16	86.25	.1779	4.63
			30.0	60.11	28.60	14.36	20.70	57.37	257.7	.2546	3.28	61.00	25.27	12.81	20.64	58.21	191.2	.1717	4.75
24	25.88	61.13	3.0	-	-	-	-	-	-	-	-	58.31	41.89	2.00	23.33	52.06	4.51	.3744	1.81
			4.0	57.47	40.22	2.58	23.14	52.82	8.09	.3632	1.86	59.72	35.73	2.34	22.79	54.57	6.20	.3194	2.37
			5.0	58.39	36.98	3.01	22.87	54.12	11.06	.3337	2.14	60.11	32.91	2.72	22.66	55.54	8.44	.2796	2.78
			6.0	58.77	35.26	3.46	22.77	54.74	14.76	.3134	2.33	60.29	31.33	3.12	22.60	56.04	11.19	.2523	3.09
			7.0	58.98	34.22	3.94	22.71	55.10	19.13	.2993	2.47	60.38	30.35	3.54	22.57	56.34	14.43	.2333	3.32
			8.0	59.10	33.54	4.42	22.68	55.33	24.18	.2893	2.57	60.43	29.69	3.96	22.55	56.53	18.16	.2197	3.51
			10.0	59.23	32.73	5.41	22.65	55.60	36.31	.2766	2.70	60.49	28.91	4.83	22.53	56.76	27.10	.2023	3.76
			12.0	59.30	32.28	6.41	22.63	55.74	51.13	.2692	2.77	60.52	28.47	5.72	22.53	56.89	38.02	.1921	3.92
			14.0	59.34	32.01	7.42	22.62	55.82	68.65	.2645	2.82	60.54	28.21	6.62	22.52	56.97	50.92	.1857	4.03
			16.0	59.37	31.84	8.44	22.62	55.88	88.85	.2615	2.86	60.55	28.03	7.52	22.52	57.01	65.81	.1814	4.11
			18.0	59.39	31.71	9.46	22.61	55.92	111.8	.2593	2.88	60.56	27.91	8.43	22.52	57.05	82.68	.1784	4.16
			20.0	59.40	31.63	10.49	22.61	55.95	137.4	.2577	2.90	60.57	27.83	9.34	22.51	57.07	101.5	.1762	4.20
			30.0	59.43	31.42	15.64	22.60	56.01	305.7	.2540	2.94	60.58	27.62	13.91	22.51	57.13	225.6	.1710	4.30
26	28.14	60.85	3.0	-	-	-	-	-	-	-	-	56.94	44.96	2.12	25.58	49.51	5.05	.3521	1.68
			4.0	55.66	43.99	2.78	25.42	50.06	9.40	.3480	1.68	59.05	38.15	2.47	24.76	52.95	6.96	.3032	2.23
			5.0	57.19	40.19	3.23	24.94	52.04	12.77	.3229	1.95	59.57	35.25	2.89	24.57	54.12	9.55	.2668	2.60
			6.0	57.76	38.33	3.72	24.77	52.88	17.07	.3050	2.12	59.79	33.65	3.32	24.50	54.72	12.73	.2421	2.88
			7.0	58.06	37.23	4.23	24.69	53.34	22.18	.2927	2.24	59.91	32.67	3.78	24.46	55.07	16.49	.2250	3.09
			8.0	58.23	36.52	4.76	24.64	53.63	28.10	.2840	2.33	59.98	32.02	4.24	24.44	55.29	20.93	.2130	3.25
			10.0	58.41	35.69	5.83	24.59	53.96	42.32	.2729	2.44	60.06	31.25	5.19	24.41	55.55	31.24	.1976	3.47
			12.0	58.51	35.23	6.92	24.57	54.13	59.70	.2666	2.50	60.10	30.83	6.15	24.40	55.69	43.95	.1887	3.60
			14.0	58.57	34.96	8.01	24.56	54.23	80.24	.2626	2.54	60.12	30.57	7.12	24.40	55.78	58.98	.1831	3.69
			16.0	58.61	34.78	9.13	24.55	54.30	104.0	.2599	2.57	60.14	30.40	8.10	24.39	55.84	76.32	.1794	3.75
			18.0	58.63	34.66	10.24	24.54	54.35	130.8	.2581	2.59	60.15	30.28	9.08	24.39	55.87	95.96	.1768	3.79
			20.0	58.64	34.57	11.35	24.54	54.38	160.9	.2568	2.60	60.15	30.20	10.06	24.39	55.90	117.9	.1749	3.83
			30.0	58.68	34.36	16.93	24.53	54.48	358.4	.2535	2.64	60.17	30.00	15.00	24.38	55.97	262.4	.1704	3.90
28	30.42	60.61	3.0	-	-	-	-	-	-	-	-	54.38	49.30	2.27	28.44	45.32	5.87	.3277	1.51
			4.0	-	-	-	-	-	-	-	-	58.28	40.74	2.61	26.77	51.06	7.79	.2889	2.08
			5.0	55.46	44.02	3.47	27.19	49.22	14.85	.3130	1.74	58.99	37.69	3.06	26.51	52.53	10.73	.2559	2.43
			6.0	56.44	41.78	4.00	26.88	50.51	19.74	.2978	1.91	59.29	36.05	3.53	26.41	53.25	14.38	.2335	2.68
			7.0	56.93	40.55	4.55	26.75	51.16	25.65	.2871	2.07	59.44	35.07	4.02	26.36	53.66	18.70	.2182	2.87
			8.0	57.15	39.77	5.12	26.67	51.55	32.51	.2795	2.19	59.53	34.42	4.52	26.33	53.92	23.69	.2074	3.01
			10.0	57.43	38.87	6.28	26.60	51.99	49.02	.2700	2.32	59.63	33.65	5.54	26.30	54.22	35.66	.1938	3.19
			12.0	57.57	38.39	7.45	26.56	52.21	69.22	.2644	2.40	59.68	33.23	6.58	26.29	54.39	50.29	.1859	3.31
			14.0	57.65	38.10	8.64	26.54	52.35	93.11	.2610	2.46	59.71	32.98	7.62	26.28	54.49	67.58	.1810	3.38
			16.0	57.71	37.91	9.83	26.52	52.44	120.7	.2587	2.50	59.73	32.81	8.67	26.27	54.55	87.52	.1778	3.43
			18.0	57.73	37.79	11.03	26.51	52.49	151.9	.2571	2.52	59.74	32.70	9.72	26.27	54.59	110.1	.1755	3.47
			20.0	57.76	37.70	12.23	26.51	52.54	186.6	.2559	2.53	59.75	32.61	10.78	26.27	54.62	135.6	.1738	3.49
			30.0	57.81	37.48	18.25	26.49	52.64	416.6	.2530	2.56	59.77	32.42	16.08	26.26	54.70	301.6	.1699	3.56

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(g) $\epsilon_p = 60°$; $\Gamma = 20°$, $\epsilon_r = 39.08°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.60	15.28	58.67	1.58	15.27	58.75	1.56	15.25	58.82	1.55	15.24	58.89	1.53	15.23	58.96	1.52	15.22	59.03
1.81	15.13	59.68	1.78	15.12	59.75	1.76	15.11	59.81	1.74	15.10	59.86	1.72	15.10	59.92	1.70	15.09	59.98
2.04	15.08	60.16	2.01	15.07	60.22	1.98	15.07	60.28	1.95	15.06	60.33	1.93	15.06	60.39	1.90	15.05	60.44
2.28	15.05	60.44	2.25	15.05	60.50	2.22	15.04	60.55	2.18	15.04	60.61	2.15	15.04	60.66	2.11	15.03	60.71
2.54	15.04	60.61	2.50	15.04	60.67	2.46	15.03	60.73	2.42	15.03	60.78	2.38	15.03	60.83	2.34	15.03	60.89
2.81	15.03	60.73	2.76	15.03	60.79	2.71	15.03	60.84	2.66	15.03	60.90	2.62	15.02	60.95	2.57	15.02	61.01
3.35	15.03	60.88	3.29	15.02	60.93	3.23	15.02	60.99	3.17	15.02	61.04	3.11	15.02	61.10	3.05	15.02	61.15
3.92	15.02	60.96	3.84	15.02	61.02	3.77	15.02	61.07	3.70	15.02	61.13	3.62	15.02	61.18	3.55	15.01	61.24
4.49	15.02	61.01	4.41	15.02	61.07	4.32	15.02	61.12	4.23	15.02	61.18	4.14	15.02	61.24	4.06	15.01	61.29
5.08	15.02	61.04	4.98	15.02	61.10	4.87	15.02	61.16	4.77	15.02	61.22	4.67	15.01	61.27	4.57	15.01	61.33
5.67	15.02	61.07	5.55	15.02	61.12	5.44	15.02	61.18	5.32	15.01	61.24	5.21	15.01	61.30	5.09	15.01	61.35
6.26	15.02	61.08	6.13	15.02	61.14	6.00	15.02	61.20	5.87	15.01	61.26	5.75	15.01	61.31	5.62	15.01	61.37
9.25	15.02	61.12	9.06	15.01	61.18	8.86	15.01	61.24	8.67	15.01	61.30	8.47	15.01	61.36	8.28	15.01	61.41
1.68	17.22	57.36	1.66	17.20	57.47	1.65	17.18	57.58	1.63	17.16	57.69	1.61	17.14	57.79	1.59	17.13	57.88
1.92	17.02	58.60	1.90	17.01	58.68	1.87	17.00	58.77	1.85	16.99	58.85	1.82	16.98	58.93	1.80	16.97	59.01
2.19	16.96	59.16	2.16	16.95	59.24	2.13	16.95	59.32	2.09	16.94	59.40	2.06	16.93	59.48	2.03	16.93	59.55
2.47	16.93	59.48	2.43	16.93	59.56	2.40	16.92	59.64	2.36	16.92	59.71	2.32	16.91	59.79	2.28	16.91	59.86
2.77	16.92	59.68	2.72	16.91	59.76	2.68	16.91	59.84	2.63	16.90	59.91	2.58	16.90	59.99	2.54	16.90	60.06
3.07	16.91	59.81	3.02	16.91	59.89	2.96	16.90	59.97	2.91	16.90	60.04	2.86	16.89	60.12	2.80	16.89	60.19
3.70	16.90	59.98	3.63	16.90	60.05	3.56	16.89	60.13	3.49	16.89	60.21	3.42	16.89	60.28	3.35	16.89	60.35
4.34	16.90	60.07	4.25	16.89	60.14	4.17	16.89	60.22	4.08	16.89	60.30	4.00	16.89	60.37	3.92	16.88	60.45
4.99	16.89	60.12	4.89	16.89	60.20	4.79	16.89	60.28	4.69	16.89	60.36	4.59	16.89	60.43	4.49	16.88	60.50
5.65	16.89	60.16	5.54	16.89	60.24	5.42	16.89	60.32	5.31	16.89	60.39	5.19	16.88	60.47	5.08	16.88	60.54
6.32	16.89	60.18	6.19	16.89	60.26	6.05	16.89	60.34	5.92	16.89	60.42	5.80	16.88	60.49	5.67	16.88	60.57
6.98	16.89	60.20	6.84	16.89	60.28	6.69	16.89	60.36	6.55	16.88	60.44	6.40	16.88	60.51	6.26	16.88	60.59
10.36	16.89	60.25	10.13	16.89	60.33	9.91	16.89	60.41	9.69	16.88	60.48	9.47	16.88	60.56	9.26	16.88	60.63
1.78	19.18	55.93	1.75	19.15	56.09	1.73	19.12	56.25	1.71	19.09	56.40	1.68	19.06	56.54	1.66	19.04	56.68
2.05	18.92	57.44	2.02	18.91	57.56	1.99	18.89	57.68	1.96	18.88	57.79	1.93	18.87	57.91	1.90	18.86	58.01
2.35	18.85	58.10	2.31	18.84	58.22	2.27	18.83	58.32	2.24	18.82	58.43	2.20	18.81	58.53	2.17	18.80	58.63
2.67	18.81	58.47	2.62	18.80	58.58	2.58	18.80	58.68	2.53	18.79	58.79	2.49	18.78	58.89	2.45	18.78	58.98
3.00	18.80	58.70	2.95	18.79	58.80	2.89	18.78	58.91	2.84	18.78	59.01	2.79	18.77	59.11	2.74	18.77	59.20
3.34	18.79	58.85	3.28	18.78	58.95	3.22	18.77	59.06	3.16	18.77	59.16	3.10	18.76	59.26	3.04	18.76	59.35
4.04	18.77	59.03	3.96	18.77	59.13	3.89	18.76	59.24	3.81	18.76	59.34	3.73	18.76	59.43	3.65	18.75	59.53
4.76	18.77	59.13	4.67	18.77	59.23	4.57	18.76	59.34	4.47	18.76	59.44	4.38	18.75	59.54	4.29	18.75	59.63
5.49	18.77	59.19	5.38	18.76	59.29	5.26	18.76	59.40	5.15	18.76	59.50	5.04	18.75	59.60	4.93	18.75	59.69
6.22	18.77	59.23	6.09	18.76	59.33	5.96	18.76	59.44	5.84	18.75	59.54	5.71	18.75	59.64	5.58	18.75	59.74
6.96	18.76	59.26	6.82	18.76	59.36	6.67	18.76	59.47	6.53	18.75	59.57	6.38	18.75	59.67	6.24	18.75	59.76
7.71	18.76	59.28	7.54	18.76	59.38	7.38	18.76	59.49	7.22	18.75	59.59	7.06	18.75	59.69	6.90	18.75	59.78
11.45	18.76	59.33	11.20	18.76	59.43	10.95	18.75	59.53	10.71	18.75	59.64	10.47	18.75	59.74	10.22	18.75	59.83
1.87	21.18	54.32	1.84	21.12	54.57	1.81	21.08	54.79	1.79	21.03	55.01	1.76	20.99	55.21	1.74	20.96	55.39
2.17	20.83	56.19	2.14	20.81	56.36	2.10	20.79	56.52	2.07	20.77	56.68	2.04	20.75	56.83	2.01	20.74	56.97
2.51	20.74	56.97	2.46	20.72	57.12	2.42	20.71	57.27	2.38	20.69	57.41	2.34	20.68	57.55	2.30	20.67	57.68
2.86	20.69	57.39	2.81	20.68	57.54	2.76	20.67	57.68	2.71	20.66	57.82	2.66	20.65	57.95	2.61	20.64	58.08
3.23	20.67	57.65	3.17	20.66	57.79	3.11	20.65	57.93	3.05	20.65	58.07	3.00	20.64	58.20	2.94	20.63	58.32
3.61	20.66	57.82	3.54	20.65	57.96	3.47	20.64	58.10	3.41	20.64	58.23	3.34	20.63	58.36	3.27	20.63	58.48
4.39	20.65	58.02	4.30	20.64	58.16	4.21	20.63	58.30	4.13	20.63	58.43	4.04	20.62	58.56	3.95	20.62	58.68
5.18	20.64	58.13	5.07	20.63	58.27	4.97	20.63	58.41	4.86	20.62	58.54	4.76	20.62	58.67	4.65	20.62	58.79
5.98	20.64	58.20	5.86	20.63	58.34	5.73	20.63	58.47	5.61	20.62	58.60	5.49	20.62	58.73	5.36	20.62	58.86
6.79	20.64	58.25	6.65	20.63	58.38	6.51	20.62	58.52	6.36	20.62	58.65	6.22	20.62	58.78	6.08	20.61	58.90
7.61	20.63	58.28	7.44	20.63	58.41	7.28	20.62	58.55	7.12	20.62	58.68	6.96	20.62	58.81	6.80	20.61	58.93
8.42	20.63	58.30	8.24	20.63	58.44	8.06	20.62	58.57	7.88	20.62	58.70	7.70	20.62	58.83	7.53	20.61	58.95
12.53	20.63	58.35	12.26	20.63	58.49	11.99	20.62	58.62	11.72	20.62	58.75	11.45	20.61	58.88	11.18	20.61	59.01
1.97	23.22	52.48	1.93	23.14	52.84	1.90	23.06	53.17	1.87	23.00	53.48	1.84	22.94	53.76	1.82	22.89	54.02
2.30	22.75	54.82	2.26	22.72	55.06	2.22	22.69	55.28	2.18	22.66	55.49	2.15	22.64	55.69	2.11	22.62	55.88
2.67	22.63	55.75	2.62	22.61	55.96	2.57	22.59	56.15	2.53	22.57	56.34	2.48	22.55	56.52	2.44	22.54	56.69
3.06	22.58	56.24	3.00	22.56	56.43	2.95	22.55	56.62	2.89	22.53	56.80	2.84	22.52	56.97	2.78	22.51	57.13
3.47	22.55	56.53	3.40	22.54	56.72	3.33	22.52	56.90	3.27	22.51	57.07	3.20	22.50	57.24	3.14	22.50	57.41
3.88	22.54	56.72	3.81	22.52	56.91	3.73	22.51	57.09	3.65	22.50	57.26	3.58	22.50	57.42	3.50	22.49	57.58
4.73	22.52	56.95	4.64	22.51	57.13	4.54	22.50	57.31	4.44	22.49	57.48	4.35	22.49	57.64	4.25	22.48	57.80
5.60	22.51	57.07	5.48	22.50	57.25	5.36	22.49	57.43	5.25	22.49	57.60	5.13	22.48	57.76	5.02	22.48	57.92
6.48	22.51	57.15	6.34	22.50	57.33	6.20	22.49	57.50	6.06	22.49	57.67	5.93	22.48	57.83	5.80	22.48	57.99
7.36	22.51	57.20	7.20	22.50	57.38	7.04	22.49	57.55	6.89	22.48	57.72	6.73	22.48	57.88	6.58	22.48	58.04
8.24	22.50	57.23	8.06	22.50	57.41	7.89	22.49	57.58	7.71	22.48	57.75	7.54	22.48	57.91	7.36	22.47	58.07
9.13	22.50	57.26	8.93	22.49	57.43	8.74	22.49	57.61	8.54	22.48	57.77	8.35	22.48	57.94	8.15	22.47	58.10
13.60	22.50	57.31	13.30	22.49	57.49	13.00	22.49	57.66	12.71	22.48	57.83	12.42	22.48	57.99	12.13	22.47	58.15
2.07	25.38	50.23	2.03	25.22	50.81	1.99	25.10	51.32	1.96	25.00	51.76	1.93	24.91	52.16	1.89	24.84	52.52
2.42	24.70	53.30	2.38	24.64	53.63	2.34	24.60	53.93	2.30	24.56	54.21	2.25	24.53	54.48	2.22	24.50	54.73
2.83	24.53	54.42	2.78	24.50	54.69	2.72	24.47	54.95	2.67	24.45	55.19	2.62	24.43	55.43	2.57	24.41	55.65
3.26	24.47	54.99	3.19	24.44	55.24	3.13	24.42	55.48	3.07	24.40	55.71	3.01	24.39	55.94	2.95	24.37	56.15
3.70	24.43	55.32	3.63	24.41	55.57	3.55	24.40	55.80	3.48	24.38	56.03	3.41	24.37	56.24	3.34	24.36	56.45
4.15	24.42	55.54	4.07	24.40	55.78	3.98	24.38	56.01	3.90	24.37	56.23	3.82	24.36	56.44	3.74	24.35	56.65
5.08	24.40	55.80	4.97	24.38	56.03	4.86	24.37	56.26	4.76	24.36	56.47	4.65	24.35	56.68	4.55	24.34	56.88
6.02	24.39	55.94	5.89	24.37	56.17	5.76	24.36	56.39	5.63	24.35	56.61	5.51	24.34	56.81	5.38	24.34	57.01
6.96	24.38	56.02	6.81	24.37	56.25	6.66	24.36	56.47	6.51	24.35	56.69	6.37	24.34	56.89	6.22	24.33	57.09
7.92	24.38	56.08	7.74	24.36	56.30	7.57	24.35	56.53	7.40	24.34	56.74	7.23	24.34	56.94	7.07	24.33	57.14
8.88	24.37	56.11	8.68	24.36	56.34	8.49	24.35	56.56	8.29	24.34	56.77	8.10	24.34	56.98	7.92	24.33	57.18
9.84	24.37	56.14	9.62	24.36	56.37	9.40	24.35	56.59	9.19	24.34	55.80	8.98	24.34	57.00	8.77	24.33	57.20
14.67	24.37	56.20	14.34	24.36	56.43	14.01	24.35	56.65	13.69	24.34	56.86	15.37	24.33	57.06	13.06	24.33	57.26
2.20	27.80	47.14	2.14	27.46	48.26	2.09	27.23	49.09	2.05	27.05	49.78	2.01	26.92	50.36	1.97	26.81	50.87
2.56	26.67	51.57	2.51	26.59	52.03	2.46	26.52	52.44	2.41	26.47	52.82	2.36	26.42	53.17	2.32	26.38	53.50
2.99	26.45	52.94	2.93	26.40	53.30	2.87	26.36	53.65	2.82	26.33	53.97	2.76	26.30	54.27	2.71	26.27	54.55
3.46	26.36	53.61	3.39	26.33	53.95	3.32	26.30	54.26	3.25	26.27	54.56	3.18	26.25	54.84	3.12	26.23	55.11
3.94	26.32	54.00	3.85	26.29	54.32	3.77	26.27	54.63	3.69	26.24	54.91	3.61	26.23	55.19	3.54	26.21	55.45
4.42	26.30	54.25	4.33	26.27	54.57	4.24	26.25	54.86	4.15	26.23	55.14	4.06	26.21	55.41	3.97	26.20	55.67
5.42	26.27	54.55	5.30	26.25	54.85	5.18	26.23	55.14	5.07	26.21	55.41	4.96	26.20	55.67	4.85	26.19	55.92
6.43	26.26	54.70	6.29	26.24	55.00	6.15	26.22	55.29	6.01	26.21	55.56	5.87	26.20	55.82	5.74	26.19	56.06
7.45	26.25	54.80	7.28	26.23	55.09	7.12	26.22	55.38	6.96	26.20	55.64	6.80	26.19	55.90	6.64	26.19	56.15
8.47	26.25	54.86	8.28	26.23	55.15	8.10	26.21	55.43	7.91	26.20	55.70	7.73	26.19	55.96	7.55	26.19	56.21
9.50	26.25	54.90	9.29	26.23	55.19	9.08	26.21	55.47	8.87	26.20	55.74	8.66	26.19	56.00	8.46	26.18	56.24
10.54	26.24	54.93	10.30	26.23	55.22	10.06	26.21	55.50	9.83	26.20	55.77	9.60	26.19	56.03	9.38	26.18	56.27
15.72	26.24	55.00	15.36	26.22	55.29	15.00	26.21	55.57	14.66	26.20	55.84	14.31	26.19	56.09	13.98	26.18	56.34

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(g) $\epsilon_p = 60°$; $\Gamma = 20°$; $\epsilon_r = 39.08°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
30	32.70	60.41	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	51.31	43.61	2.76	28.87	48.74	.8472	.2761	1.93
			5.0	-	-	-	-	-	-	-	-	51.34	40.27	3.23	28.48	50.69	.1202	.2464	2.26
			6.0	54.20	46.23	4.33	29.34	46.93	.2308	.2908	1.67	51.74	38.57	3.74	28.34	51.58	.1616	.2262	2.49
			7.0	55.15	44.51	4.91	29.02	48.15	.2429	.2820	1.76	51.94	37.55	4.27	28.27	52.08	.2107	.2125	2.66
			8.0	55.63	43.54	5.21	28.86	48.79	.2437	.2756	1.86	52.06	36.89	4.80	28.24	52.39	.2647	.2028	2.78
			10.0	56.09	42.47	6.75	28.72	49.45	.2456	.2674	1.95	52.19	36.12	5.99	28.20	52.75	.4037	.1907	2.94
			12.0	56.32	41.92	8.02	28.65	49.77	.2480	.2626	2.00	52.26	35.69	7.00	28.18	52.94	.5702	.1837	3.04
			14.0	56.44	41.59	9.29	28.61	49.96	.2507	.2596	2.03	52.29	35.44	8.12	28.17	53.05	.7671	.1793	3.10
			16.0	56.52	41.36	10.58	28.59	50.08	.2539	.2576	2.05	52.32	35.27	9.24	28.16	53.12	.9943	.1764	3.14
			18.0	56.58	41.23	11.86	28.58	50.16	.2575	.2563	2.07	52.33	35.16	10.36	28.15	53.17	.1252	.1744	3.17
			20.0	56.61	41.13	13.16	28.56	50.22	.2616	.2553	2.08	52.34	35.08	11.49	28.15	53.21	.1539	.1730	3.20
			30.0	56.70	40.89	19.64	28.54	50.36	.4822	.2529	2.10	52.37	34.88	17.16	28.14	53.29	.3433	.1695	3.25
32	35.00	60.25	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	55.84	47.06	2.93	31.23	45.51	9.84	.2638	1.76
			5.0	-	-	-	-	-	-	-	-	57.54	43.08	3.42	30.53	48.46	.1344	.2381	2.09
			6.0	-	-	-	-	-	-	-	-	58.11	41.23	3.95	30.32	49.62	.1808	.2200	2.30
			7.0	-	-	-	-	-	-	-	-	58.39	40.15	4.51	30.22	50.25	.2360	.2076	2.45
			8.0	51.51	49.96	6.13	32.09	42.77	.4658	.2704	1.92	58.55	39.47	5.09	30.17	50.63	.3000	.1989	2.56
			10.0	53.59	47.30	7.35	31.29	45.31	.6730	.2648	1.67	58.72	38.67	6.25	30.11	51.07	.4538	.1880	2.70
			12.0	54.16	46.41	8.69	31.08	46.05	.9423	.2609	1.73	58.81	38.23	7.43	30.08	51.29	.6418	.1818	2.79
			14.0	54.45	45.92	10.06	30.99	46.43	.1263	.2583	1.76	58.85	37.97	8.61	30.07	51.43	.8641	.1779	2.84
			16.0	54.62	45.63	11.44	30.93	46.66	.1634	.2567	1.79	58.89	37.81	9.81	30.06	51.52	.1121	.1753	2.88
			18.0	54.73	45.43	12.82	30.89	46.81	.2056	.2555	1.80	58.91	37.69	11.00	30.05	51.58	.1411	.1735	2.90
			20.0	54.80	45.29	14.21	30.87	46.91	.2526	.2546	1.81	58.92	37.61	12.20	30.05	51.62	.1736	.1723	2.92
			30.0	54.97	44.97	21.20	30.81	47.19	.5062	.2526	1.84	58.96	37.41	18.23	30.04	51.72	.3874	.1692	2.97
34	37.30	60.13	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	58.40	46.30	3.61	32.74	45.91	15.08	.2304	1.91
			7.0	-	-	-	-	-	-	-	-	58.31	44.13	4.18	32.38	47.21	20.19	.2144	2.11
			8.0	-	-	-	-	-	-	-	-	58.72	42.94	4.77	32.22	48.05	26.36	.2033	2.25
			10.0	-	-	-	-	-	-	-	-	58.94	42.19	5.37	32.14	48.55	33.52	.1955	2.35
			12.0	-	-	-	-	-	-	-	-	59.18	41.34	6.61	32.06	49.10	50.74	.1856	2.48
			14.0	-	-	-	-	-	-	-	-	59.30	40.89	7.86	32.02	49.39	71.82	.1802	2.55
			16.0	-	-	-	-	-	-	-	-	59.37	40.62	9.11	32.00	49.56	96.74	.1767	2.60
			18.0	-	-	-	-	-	-	-	-	59.41	40.44	10.38	31.99	49.66	125.5	.1744	2.63
			20.0	-	-	-	-	-	-	-	-	59.44	40.32	11.65	31.98	49.74	158.1	.1728	2.65
			30.0	-	-	-	-	-	-	-	-	59.46	40.23	12.92	31.97	49.79	194.5	.1717	2.67
												59.50	40.03	19.30	31.96	49.91	434.2	.1689	2.71
36	39.60	60.05	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	59.50	51.34	3.90	35.88	39.61	17.62	.2213	1.64
			6.0	-	-	-	-	-	-	-	-	59.07	47.53	4.43	34.66	43.88	22.68	.2092	1.91
			7.0	-	-	-	-	-	-	-	-	58.78	46.05	5.04	34.36	45.21	29.46	.1995	2.05
			8.0	-	-	-	-	-	-	-	-	59.14	45.18	5.67	34.22	45.94	37.40	.1935	2.14
			10.0	-	-	-	-	-	-	-	-	59.50	44.22	6.97	34.08	46.70	56.58	.1838	2.26
			12.0	-	-	-	-	-	-	-	-	59.67	43.72	8.29	34.02	47.08	80.08	.1788	2.33
			14.0	-	-	-	-	-	-	-	-	59.77	43.42	9.62	33.98	47.30	107.9	.1757	2.37
			16.0	-	-	-	-	-	-	-	-	59.83	43.23	10.96	33.96	47.44	140.0	.1735	2.40
			18.0	-	-	-	-	-	-	-	-	59.87	43.10	12.30	33.95	47.54	176.3	.1722	2.42
			20.0	-	-	-	-	-	-	-	-	59.90	43.01	13.64	33.94	47.61	217.0	.1711	2.43
			30.0	-	-	-	-	-	-	-	-	59.96	42.79	20.38	33.92	47.76	484.4	.1687	2.47
38	41.91	60.01	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	54.89	50.18	5.38	36.98	40.53	33.56	.1955	1.80
			10.0	-	-	-	-	-	-	-	-	55.77	48.60	6.02	36.58	42.12	42.11	.1897	1.91
			12.0	-	-	-	-	-	-	-	-	56.46	47.52	7.37	36.28	43.45	63.29	.1820	2.03
			14.0	-	-	-	-	-	-	-	-	56.75	46.90	8.76	36.16	44.00	89.39	.1775	2.10
			16.0	-	-	-	-	-	-	-	-	56.91	46.54	10.16	36.09	44.38	120.3	.1747	2.14
			18.0	-	-	-	-	-	-	-	-	57.01	46.31	11.57	36.05	44.59	156.0	.1729	2.16
			20.0	-	-	-	-	-	-	-	-	57.08	46.16	12.98	36.03	44.73	196.5	.1716	2.18
			30.0	-	-	-	-	-	-	-	-	57.12	46.05	14.40	36.01	44.82	241.7	.1707	2.19
												57.22	45.80	21.51	35.97	45.05	539.5	.1685	2.23
40	44.22	60.00	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	54.59	51.38	9.38	38.95	38.53	102.4	.1761	1.81
			14.0	-	-	-	-	-	-	-	-	55.13	50.64	10.82	38.68	39.54	136.5	.1738	1.86
			16.0	-	-	-	-	-	-	-	-	55.40	50.25	12.30	38.55	40.04	176.4	.1722	1.90
			18.0	-	-	-	-	-	-	-	-	55.57	50.00	13.79	38.48	40.36	221.6	.1711	1.92
			20.0	-	-	-	-	-	-	-	-	55.67	49.83	15.28	38.43	40.56	272.3	.1702	1.93
			30.0	-	-	-	-	-	-	-	-	55.90	49.49	22.79	38.32	41.02	606.0	.1683	1.97
42	46.53	60.04	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(g) $\epsilon_p = 60°$; $\Gamma = 20°$; $\epsilon_r = 39.08°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
-	-	-	2.28	30.18	44.29	2.20	29.57	46.16	2.15	29.23	47.34	2.10	28.99	48.24	2.05	28.82	48.99
2.69	28.70	49.53	2.63	28.57	50.19	2.58	28.47	50.77	2.53	28.39	51.29	2.47	28.32	51.75	2.43	28.26	52.18
3.16	28.39	51.26	3.09	28.32	51.76	3.03	28.26	52.22	2.96	28.21	52.64	2.90	28.17	53.03	2.84	28.14	53.39
3.66	28.28	52.07	3.58	28.22	52.52	3.50	28.18	52.94	3.43	28.14	53.32	3.35	28.11	53.68	3.28	28.09	54.02
4.17	28.22	52.54	4.08	28.17	52.96	3.99	28.14	53.35	3.90	28.11	53.72	3.82	28.09	54.07	3.74	28.07	54.39
4.69	28.19	52.83	4.59	28.15	53.24	4.49	28.12	53.62	4.39	28.09	53.98	4.29	28.07	54.31	4.20	28.05	54.63
5.76	28.15	53.17	5.63	28.12	53.56	5.50	28.09	53.93	5.38	28.07	54.28	5.26	28.06	54.61	5.14	28.04	54.92
6.84	28.14	53.35	6.68	28.11	53.74	6.53	28.08	54.10	6.38	28.06	54.44	6.24	28.05	54.76	6.09	28.04	55.07
7.93	28.13	53.46	7.75	28.10	53.84	7.57	28.08	54.20	7.40	28.06	54.54	7.22	28.05	54.86	7.06	28.04	55.16
9.03	28.12	53.53	8.82	28.10	53.91	8.61	28.07	54.26	8.41	28.06	54.60	8.22	28.04	54.92	8.03	28.03	55.23
10.12	28.12	53.58	9.89	28.09	53.95	9.66	28.07	54.31	9.44	28.05	54.64	9.22	28.04	54.96	9.00	28.03	55.27
11.23	28.12	53.61	10.97	28.09	53.99	10.71	28.07	54.34	10.46	28.05	54.67	10.22	28.04	54.99	9.97	28.03	55.30
16.76	28.11	53.69	14.36	28.09	54.06	15.98	28.07	54.42	15.61	28.05	54.75	15.24	28.04	55.06	14.88	28.03	55.37
-	-	-	-	-	-	-	-	-	2.26	31.70	43.95	2.19	31.20	45.61	2.14	30.90	46.77
2.84	30.86	46.94	2.77	30.62	47.99	2.70	30.45	48.84	2.64	30.33	49.56	2.59	30.25	50.18	2.53	30.15	50.74
3.33	30.37	49.30	3.25	30.26	50.01	3.18	30.17	50.63	3.11	30.10	51.18	3.04	30.04	51.68	2.98	30.00	52.15
3.86	30.21	50.32	3.77	30.13	50.93	3.68	30.06	51.47	3.60	30.01	51.97	3.52	29.97	52.43	3.45	29.94	52.86
4.41	30.13	50.88	4.30	30.07	51.45	4.21	30.01	51.96	4.11	29.97	52.43	4.02	29.94	52.87	3.93	29.92	53.28
4.96	30.09	51.23	4.85	30.03	51.77	4.74	29.99	52.27	4.63	29.95	52.72	4.52	29.92	53.15	4.42	29.90	53.54
6.10	30.05	51.63	5.96	30.00	52.15	5.82	29.96	52.62	5.68	29.93	53.06	5.55	29.91	53.47	5.42	29.89	53.86
7.25	30.03	51.85	7.08	29.98	52.35	6.91	29.96	52.81	6.75	29.92	53.24	6.59	29.90	53.64	6.44	29.88	54.03
8.41	30.01	51.97	8.21	29.97	52.47	8.01	29.94	52.92	7.83	29.91	53.35	7.64	29.89	53.78	7.46	29.88	54.13
9.57	30.01	52.05	9.34	29.96	52.54	9.12	29.93	53.00	8.91	29.91	53.42	8.70	29.89	53.82	8.49	29.88	54.19
10.74	30.00	52.11	10.48	29.96	52.60	10.24	29.93	53.05	9.99	29.91	53.47	9.76	29.89	53.86	9.53	29.88	54.24
11.91	30.00	52.15	11.63	29.96	52.63	11.35	29.93	53.08	11.08	29.90	53.50	10.82	29.89	53.90	10.56	29.88	54.27
17.78	29.99	52.24	17.36	29.95	52.72	16.95	29.92	53.17	16.54	29.90	53.58	16.15	29.88	53.98	15.76	29.87	54.35
-	-	-	-	-	-	-	-	-	-	-	-	2.30	33.82	41.72	2.23	33.13	43.98
3.02	33.40	43.04	2.91	32.83	45.15	2.83	32.52	46.51	2.76	32.31	47.56	2.70	32.16	48.42	2.64	32.05	49.17
3.51	32.44	46.89	3.42	32.24	47.94	3.33	32.10	48.81	3.26	32.00	49.56	3.18	31.92	50.21	3.11	31.86	50.81
4.07	32.19	48.25	3.96	32.06	49.10	3.87	31.96	49.84	3.78	31.89	50.49	3.69	31.83	51.08	3.61	31.79	51.62
4.64	32.08	48.96	4.53	31.98	49.74	4.42	31.90	50.42	4.32	31.84	51.02	4.22	31.79	51.58	4.12	31.76	52.09
5.24	32.02	49.40	5.11	31.93	50.13	4.98	31.86	50.77	4.87	31.81	51.36	4.75	31.77	51.89	4.64	31.74	52.38
6.44	31.96	49.89	6.28	31.88	50.57	6.13	31.83	51.18	5.98	31.78	51.74	5.84	31.75	52.25	5.71	31.73	52.73
7.66	31.93	50.14	7.47	31.86	50.80	7.29	31.81	51.40	7.11	31.77	51.95	6.94	31.74	52.45	6.78	31.72	52.92
8.88	31.91	50.29	8.66	31.85	50.94	8.45	31.80	51.53	8.25	31.76	52.07	8.05	31.74	52.57	7.86	31.72	53.03
10.12	31.90	50.39	9.87	31.84	51.03	9.63	31.79	51.62	9.39	31.76	52.15	9.17	31.73	52.64	8.95	31.72	53.10
11.35	31.89	50.46	11.07	31.83	51.09	10.80	31.79	51.67	10.54	31.75	52.20	10.29	31.73	52.69	10.04	31.71	53.15
12.59	31.89	50.50	12.28	31.83	51.14	11.98	31.79	51.71	11.69	31.75	52.24	11.41	31.73	52.73	11.14	31.71	53.19
18.81	31.88	50.61	18.34	31.82	51.24	17.89	31.78	51.81	17.44	31.75	52.33	17.04	31.73	52.82	16.63	31.71	53.27
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.34	35.86	39.66
-	-	-	3.10	35.66	40.29	2.97	34.76	43.42	2.88	34.38	45.13	2.81	34.13	46.39	2.74	33.97	47.40
3.71	34.73	43.58	3.59	34.32	45.38	3.49	34.08	46.68	3.40	33.92	47.71	3.32	33.81	48.58	3.24	33.72	49.35
4.28	34.27	45.66	4.16	34.04	46.94	4.05	33.89	47.97	3.95	33.78	48.84	3.86	33.70	49.60	3.77	33.64	50.28
4.89	34.09	46.64	4.76	33.92	47.75	4.64	33.80	48.67	4.52	33.71	49.47	4.42	33.65	50.17	4.31	33.60	50.81
5.51	34.00	47.21	5.36	33.85	48.24	5.23	33.75	49.10	5.10	33.68	49.86	4.98	33.62	50.53	4.86	33.58	51.15
6.78	33.91	47.84	6.60	33.79	48.78	6.44	33.70	49.58	6.28	33.64	50.30	6.13	33.59	50.94	5.98	33.56	51.53
8.06	33.86	48.16	7.85	33.75	49.06	7.66	33.68	49.84	7.47	33.62	50.53	7.29	33.58	51.16	7.11	33.56	51.74
9.36	33.84	48.35	9.12	33.74	49.22	8.89	33.66	49.99	8.67	33.61	50.67	8.46	33.58	51.30	8.25	33.55	51.87
10.66	33.82	48.47	10.38	33.72	49.33	10.12	33.66	50.09	9.87	33.61	50.76	9.63	33.57	51.38	9.40	33.55	51.95
11.96	33.81	48.55	11.65	33.72	49.40	11.36	33.65	50.15	11.08	33.60	50.83	10.81	33.57	51.44	10.55	33.55	52.00
13.27	33.81	48.60	12.93	33.71	49.45	12.60	33.65	50.20	12.29	33.60	50.87	11.99	33.57	51.48	11.70	33.55	52.04
19.83	33.79	48.74	19.31	33.70	49.58	18.83	33.64	50.31	18.36	33.59	50.97	17.91	33.56	51.58	17.47	33.54	52.13
-	-	-	-	-	-	3.18	38.08	37.02	3.02	36.63	41.90	2.93	36.18	43.93	2.85	35.92	45.38
-	-	-	3.78	36.66	41.76	3.65	36.16	44.02	3.55	35.89	45.55	3.46	35.71	46.74	3.37	35.59	47.74
4.53	36.62	41.94	4.37	36.12	44.23	4.24	35.85	45.76	4.13	35.68	46.96	4.02	35.57	47.96	3.93	35.49	48.82
5.15	36.25	43.59	4.99	35.92	45.34	4.85	35.72	46.65	4.73	35.59	47.72	4.61	35.50	48.63	4.50	35.44	49.43
5.80	36.08	44.44	5.63	35.82	45.98	5.47	35.66	47.18	5.33	35.55	48.18	5.20	35.47	49.05	5.08	35.42	49.81
7.13	35.93	45.31	6.93	35.72	46.67	6.74	35.59	47.77	6.57	35.50	48.70	6.41	35.44	49.52	6.25	35.39	50.25
8.48	35.86	45.75	8.24	35.68	47.03	8.02	35.56	48.08	7.82	35.48	48.98	7.63	35.42	49.77	7.44	35.38	50.48
9.84	35.82	46.00	9.57	35.65	47.23	9.32	35.54	48.26	9.08	35.46	49.14	8.85	35.41	49.92	8.64	35.38	50.62
11.21	35.79	46.15	10.90	35.63	47.37	10.61	35.53	48.37	10.34	35.45	49.24	10.08	35.41	50.01	9.84	35.37	50.71
12.59	35.78	46.26	12.23	35.62	47.46	11.91	35.52	48.45	11.61	35.45	49.31	11.32	35.40	50.08	11.04	35.37	50.77
13.96	35.77	46.33	13.57	35.62	47.52	13.21	35.51	48.51	12.88	35.45	49.36	12.56	35.40	50.13	12.25	35.37	50.82
20.86	35.74	46.51	20.28	35.60	47.67	19.75	35.50	48.64	19.24	35.44	49.48	18.76	35.39	50.24	18.30	35.37	50.92
-	-	-	-	-	-	-	-	-	-	-	-	3.05	38.39	40.70	2.96	37.92	42.97
-	-	-	-	-	-	3.84	38.51	40.23	3.70	37.94	42.87	3.60	37.65	44.60	3.50	37.47	45.94
-	-	-	4.60	38.50	40.24	4.48	37.92	43.00	4.30	37.63	44.76	4.19	37.45	46.11	4.08	37.34	47.22
5.50	39.11	37.96	5.24	38.08	42.16	5.07	37.71	44.22	4.93	37.50	45.71	4.80	37.36	46.91	4.68	37.28	47.93
6.14	38.51	40.23	5.90	37.89	43.12	5.72	37.60	44.91	5.56	37.43	46.28	5.42	37.32	47.40	5.29	37.25	48.37
7.52	38.14	41.84	7.26	37.73	44.09	7.05	37.50	45.66	6.86	37.37	46.90	6.68	37.28	47.95	6.52	37.22	48.86
8.93	38.00	42.54	8.64	37.65	44.57	8.39	37.46	46.04	8.17	37.33	47.23	7.96	37.26	48.24	7.76	37.21	49.13
10.36	37.93	42.92	10.03	37.61	44.84	9.74	37.43	46.26	9.48	37.32	47.42	9.24	37.24	48.41	9.01	37.20	49.28
11.79	37.89	43.16	11.42	37.59	45.01	11.10	37.42	46.40	10.80	37.31	47.54	10.53	37.24	48.52	10.26	37.19	49.38
13.23	37.86	43.32	12.82	37.57	45.13	12.46	37.41	46.50	12.13	37.30	47.63	11.82	37.23	48.60	11.52	37.19	49.45
14.68	37.84	43.43	14.22	37.56	45.21	13.82	37.40	46.57	13.46	37.30	47.69	13.11	37.23	48.65	12.78	37.19	49.50
21.93	37.80	43.68	21.25	37.54	45.40	20.66	37.38	46.73	20.11	37.29	47.83	19.60	37.22	48.77	19.11	37.19	49.62
-	-	-	-	-	-	-	-	-	-	-	-	3.23	41.61	34.10	3.07	40.06	39.89
-	-	-	-	-	-	-	-	-	3.87	40.22	39.14	3.74	39.65	42.01	3.69	39.37	43.88
-	-	-	-	-	-	4.65	40.26	38.98	4.48	39.65	42.04	4.35	39.36	43.97	4.24	39.19	45.44
-	-	-	5.58	41.04	35.98	5.30	39.83	41.03	5.13	39.45	43.32	4.99	39.24	44.96	4.86	39.11	46.27
-	-	-	6.22	40.31	38.75	5.98	39.64	42.06	5.79	39.35	44.05	5.64	39.18	45.55	5.49	39.07	46.78
-	-	-	7.62	39.92	40.55	7.36	39.48	43.09	7.14	39.25	44.83	6.95	39.12	46.21	6.77	39.04	47.35
9.55	41.00	36.11	9.05	39.77	41.31	8.76	39.41	43.60	8.51	39.21	45.23	8.28	39.09	46.55	8.07	39.02	47.65
11.00	40.59	37.61	10.51	39.70	41.73	10.17	39.37	43.89	9.88	39.19	45.47	9.62	39.08	46.75	9.37	39.01	47.83
12.50	40.43	38.26	11.96	39.65	41.99	11.58	39.34	44.07	11.26	39.17	45.62	10.96	39.07	46.87	10.68	39.01	47.95
14.01	40.34	38.64	13.43	39.63	42.16	13.00	39.33	44.19	12.64	39.16	45.72	12.31	39.06	46.96	11.99	39.00	48.02
15.52	40.28	38.89	14.89	39.61	42.28	14.43	39.32	44.28	14.02	39.15	45.79	13.65	39.06	47.02	13.31	39.00	48.08
23.15	40.16	39.43	22.25	39.56	42.55	21.56	39.29	44.48	20.96	39.14	45.96	20.41	39.05	47.17	19.89	39.00	48.21

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(h) $\epsilon_p = 60°$; $\Gamma = 30°$; $\epsilon_r = 90°$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	1.73	89.00	3.0	88.67	20.82	1.07	1.73	88.99	1.17	.9100	2.87	83.83	20.67	1.06	1.73	88.99	1.14	.9095	2.91
			4.0	88.76	15.76	1.09	1.73	88.99	1.23	.8853	3.81	83.89	15.63	1.08	1.73	88.99	1.19	.8844	3.87
			5.0	88.79	12.80	1.11	1.73	88.99	1.28	.8610	4.72	83.91	12.67	1.10	1.73	88.99	1.24	.8596	4.82
			6.0	88.81	10.86	1.13	1.73	88.99	1.35	.8375	5.62	83.92	10.72	1.12	1.73	88.99	1.29	.8355	5.76
			7.0	88.82	9.48	1.15	1.73	89.00	1.41	.8148	6.50	83.93	9.34	1.14	1.73	89.00	1.34	.8121	6.68
			8.0	88.82	8.45	1.18	1.73	89.00	1.48	.7929	7.36	83.93	8.31	1.16	1.73	89.00	1.39	.7896	7.59
			10.0	88.83	7.02	1.22	1.73	89.00	1.62	.7518	9.03	83.93	6.85	1.20	1.73	89.00	1.51	.7468	9.39
			12.0	88.84	6.08	1.27	1.73	89.00	1.77	.7140	10.64	83.94	5.94	1.24	1.73	89.00	1.63	.7071	11.14
			14.0	88.84	5.42	1.32	1.73	89.00	1.94	.6793	12.18	83.94	5.27	1.29	1.73	89.00	1.76	.6704	12.85
			16.0	88.84	4.93	1.37	1.73	89.00	2.11	.6476	13.65	83.94	4.78	1.33	1.73	89.00	1.90	.6364	14.51
			18.0	88.84	4.55	1.43	1.73	89.00	2.30	.6185	15.07	83.94	4.39	1.38	1.73	89.00	2.05	.6050	16.13
			20.0	88.84	4.25	1.48	1.73	89.00	2.50	.5918	16.42	83.94	4.09	1.43	1.73	89.00	2.21	.5760	17.70
			30.0	88.84	3.39	1.77	1.73	89.00	3.69	.4888	22.31	83.94	3.22	1.68	1.73	89.00	3.14	.4610	24.92
4	3.47	88.00	3.0	87.35	22.25	1.14	3.46	87.96	1.36	.8315	2.75	87.66	21.95	1.12	3.46	87.96	1.30	.8296	2.83
			4.0	87.52	17.15	1.18	3.46	87.97	1.49	.7892	3.63	87.78	16.86	1.16	3.46	87.97	1.40	.7859	3.75
			5.0	87.58	14.19	1.23	3.46	87.97	1.63	.7492	4.67	87.82	13.90	1.20	3.46	87.97	1.52	.7443	4.85
			6.0	87.62	12.26	1.27	3.46	87.98	1.78	.7122	5.27	87.84	11.96	1.24	3.46	87.98	1.64	.7053	5.52
			7.0	87.64	10.91	1.32	3.46	87.98	1.94	.6780	6.04	87.85	10.60	1.29	3.46	87.98	1.77	.6691	6.37
			8.0	87.65	9.90	1.38	3.46	87.98	2.12	.6465	6.78	87.86	9.59	1.33	3.46	87.98	1.91	.6354	7.21
			10.0	87.66	8.53	1.48	3.46	87.99	2.50	.5912	8.16	87.87	8.21	1.43	3.46	87.99	2.21	.5754	8.80
			12.0	87.67	7.65	1.60	3.46	87.99	2.94	.5448	9.43	87.87	7.31	1.53	3.46	87.99	2.55	.5241	10.31
			14.0	87.67	7.03	1.71	3.46	87.99	3.43	.5058	10.58	87.88	6.69	1.63	3.46	87.99	2.93	.4803	11.73
			16.0	87.68	6.59	1.84	3.46	87.99	3.97	.4730	11.62	87.88	6.23	1.74	3.46	87.99	3.35	.4429	13.07
			18.0	87.68	6.26	1.96	3.46	87.99	4.57	.4454	12.56	87.88	5.89	1.85	3.46	87.99	3.81	.4108	14.31
			20.0	87.68	6.01	2.09	3.46	87.99	5.23	.4220	13.41	87.88	5.63	1.96	3.46	87.99	4.32	.3834	15.48
			30.0	87.68	5.32	2.78	3.46	87.99	9.42	.3478	16.51	87.88	4.91	2.57	3.46	87.99	7.51	.2933	20.14
6	5.20	87.00	3.0	86.01	23.77	1.21	5.19	86.90	1.58	.7631	2.64	85.49	23.29	1.19	5.19	86.90	1.47	.7591	2.74
			4.0	86.27	18.65	1.28	5.19	86.92	1.80	.7089	3.45	85.67	18.17	1.25	5.19	86.93	1.65	.7021	3.62
			5.0	86.37	15.71	1.35	5.19	86.94	2.04	.6599	4.22	85.73	15.23	1.31	5.19	86.94	1.85	.6499	4.47
			6.0	86.42	13.81	1.43	5.19	86.95	2.31	.6163	4.94	85.76	13.32	1.38	5.19	86.95	2.06	.6030	5.29
			7.0	86.45	12.49	1.51	5.19	86.96	2.61	.5779	5.61	85.78	11.99	1.45	5.19	86.96	2.30	.5610	6.07
			8.0	86.47	11.53	1.60	5.19	86.96	2.94	.5441	6.23	85.79	11.01	1.53	5.19	86.96	2.56	.5236	6.82
			10.0	86.49	10.25	1.78	5.19	86.97	3.70	.4884	7.35	85.81	9.69	1.68	5.19	86.97	3.14	.4607	8.22
			12.0	86.50	9.42	1.96	5.19	86.97	4.57	.4452	8.32	85.81	8.86	1.85	5.19	86.97	3.82	.4108	9.49
			14.0	86.51	8.87	2.16	5.19	86.97	5.58	.4117	9.15	85.82	8.29	2.02	5.19	86.98	4.59	.3712	10.63
			16.0	86.52	8.48	2.36	5.19	86.98	6.72	.3854	9.85	85.82	7.89	2.20	5.19	86.98	5.46	.3396	11.66
			18.0	86.52	8.20	2.57	5.19	86.98	8.00	.3645	10.45	85.82	7.59	2.38	5.19	86.98	6.43	.3141	12.57
			20.0	86.52	7.99	2.78	5.19	86.98	9.41	.3479	10.96	85.82	7.37	2.56	5.19	86.98	7.50	.2934	13.38
			30.0	86.53	7.44	3.89	5.19	86.98	18.64	.3005	12.58	85.82	6.78	3.54	5.19	86.98	14.47	.2331	16.23
8	6.94	86.01	3.0	84.66	25.39	1.29	6.92	85.81	1.82	.7036	2.53	83.31	24.70	1.25	6.92	85.82	1.67	.6970	2.66
			4.0	85.02	20.24	1.38	6.92	85.86	2.15	.6420	3.29	83.55	19.57	1.34	6.92	85.87	1.93	.6311	3.50
			5.0	85.16	17.33	1.49	6.92	85.89	2.52	.5886	3.98	83.64	16.64	1.43	6.92	85.89	2.23	.5730	4.30
			6.0	85.23	15.48	1.60	6.92	85.91	2.96	.5432	4.62	83.69	14.77	1.53	6.92	85.91	2.56	.5228	5.06
			7.0	85.27	14.20	1.72	6.92	85.92	3.44	.5048	5.19	83.71	13.48	1.63	6.92	85.92	2.94	.4796	5.77
			8.0	85.29	13.29	1.84	6.92	85.93	3.98	.4724	5.71	83.73	12.55	1.74	6.92	85.93	3.36	.4425	6.44
			10.0	85.32	12.08	2.09	6.92	85.94	5.23	.4219	6.61	83.74	11.31	1.96	6.92	85.94	4.32	.3834	7.64
			12.0	85.34	11.34	2.36	6.92	85.94	6.72	.3854	7.33	83.75	10.54	2.19	6.92	85.95	5.45	.3397	8.69
			14.0	85.35	10.86	2.64	6.92	85.95	8.45	.3586	7.92	83.76	10.03	2.44	6.92	85.95	6.77	.3069	9.58
			16.0	85.35	10.52	2.92	6.92	85.95	10.43	.3387	8.39	83.76	9.67	2.69	6.92	85.96	8.27	.2819	10.34
			18.0	85.35	10.28	3.21	6.92	85.95	12.66	.3235	8.77	83.76	9.42	2.95	6.92	85.96	9.95	.2627	10.99
			20.0	85.36	10.10	3.51	6.92	85.95	15.14	.3118	9.08	83.76	9.23	3.21	6.92	85.96	11.83	.2477	11.54
			30.0	85.36	9.65	5.03	6.92	85.96	31.42	.2805	9.97	83.77	8.74	4.56	6.92	85.96	24.10	.2067	13.29
10	8.68	85.02	3.0	83.30	27.10	1.37	8.65	84.69	2.09	.6519	2.41	84.13	26.18	1.32	8.65	84.71	1.88	.6424	2.57
			4.0	83.76	21.94	1.49	8.65	84.77	2.54	.5863	3.12	84.44	21.03	1.44	8.65	84.79	2.24	.5710	3.38
			5.0	83.94	19.06	1.63	8.65	84.82	3.09	.5318	3.75	84.55	18.15	1.56	8.65	84.83	2.66	.5104	4.13
			6.0	84.02	17.26	1.78	8.65	84.84	3.71	.4873	4.31	84.61	16.32	1.69	8.65	84.86	3.15	.4599	4.83
			7.0	84.08	16.04	1.93	8.65	84.86	4.43	.4512	4.80	84.64	15.07	1.82	8.65	84.87	3.70	.4181	5.47
			8.0	84.11	15.18	2.09	8.65	84.87	5.24	.4217	5.23	84.66	14.19	1.96	8.65	84.89	4.32	.3835	6.05
			10.0	84.14	14.05	2.43	8.65	84.89	7.13	.3780	5.94	84.68	13.02	2.25	8.65	84.90	5.76	.3307	7.08
			12.0	84.16	13.38	2.78	8.65	84.90	9.40	.3480	6.48	84.69	12.32	2.56	8.65	84.91	7.48	.2938	7.92
			14.0	84.18	12.95	3.14	8.65	84.90	12.06	.3270	6.89	84.70	11.86	2.88	8.65	84.92	9.50	.2673	8.61
			16.0	84.18	12.66	3.51	8.65	84.91	15.12	.3119	7.21	84.70	11.55	3.20	8.65	84.92	11.80	.2479	9.18
			18.0	84.19	12.45	3.88	8.65	84.91	18.58	.3007	7.45	84.71	11.33	3.53	8.65	84.93	14.41	.2334	9.64
			20.0	84.19	12.29	4.26	8.65	84.91	22.43	.2922	7.65	84.71	11.16	3.87	8.65	84.93	17.32	.2223	10.01
			30.0	84.20	11.92	6.19	8.65	84.92	47.74	.2705	8.18	84.71	10.75	5.60	8.65	84.93	36.37	.1933	11.12
12	10.43	84.03	3.0	81.92	28.91	1.45	10.38	83.53	2.38	.6069	2.30	82.94	27.73	1.40	10.38	83.56	2.11	.5943	2.49
			4.0	82.49	23.73	1.61	10.38	83.66	2.99	.5400	2.96	83.32	22.58	1.54	10.38	83.68	2.58	.5200	3.26
			5.0	82.71	20.90	1.78	10.38	83.72	3.73	.4864	3.53	83.46	19.73	1.69	10.37	83.74	3.16	.4593	3.96
			6.0	82.82	19.14	1.97	10.37	83.76	4.59	.4444	4.01	83.53	17.95	1.85	10.37	83.78	3.82	.4105	4.60
			7.0	82.88	17.98	2.16	10.37	83.78	5.59	.4114	4.43	83.57	16.75	2.02	10.37	83.81	4.58	.3714	5.17
			8.0	82.92	17.16	2.36	10.37	83.80	6.72	.3854	4.78	83.59	15.91	2.19	10.37	83.82	5.44	.3400	5.68
			10.0	82.97	16.12	2.78	10.37	83.82	9.39	.3481	5.34	83.62	14.82	2.56	10.37	83.85	7.47	.2940	6.34
			12.0	82.99	15.51	3.21	10.37	83.83	12.62	.3237	5.74	83.64	14.18	2.94	10.37	83.86	9.91	.2632	7.22
			14.0	83.00	15.12	3.65	10.37	83.84	16.42	.3071	6.04	83.64	13.76	3.33	10.37	83.87	12.77	.2418	7.75
			16.0	83.01	14.85	4.10	10.37	83.84	20.80	.2955	6.26	83.65	13.48	3.73	10.37	83.87	16.07	.2266	8.17
			18.0	83.02	14.67	4.56	10.37	83.85	25.74	.2870	6.42	83.65	13.28	4.14	10.37	83.88	19.79	.2154	8.50
			20.0	83.02	14.54	5.02	10.37	83.85	31.27	.2807	6.55	83.66	13.14	4.55	10.37	83.88	23.95	.2070	8.76
			30.0	83.03	14.21	7.36	10.37	83.86	67.58	.2648	6.89	83.66	12.78	6.64	10.37	83.89	51.25	.1856	9.50
14	12.18	83.05	3.0	80.51	30.83	1.54	12.11	82.33	2.71	.5679	2.19	81.75	29.35	1.47	12.10	82.38	2.36	.5521	2.40
			4.0	81.20	25.62	1.73	12.10	82.51	3.49	.5014	2.80	82.21	24.19	1.64	12.10	82.55	2.97	.4769	3.14
			5.0	81.47	22.82	1.94	12.10	82.59	4.45	.4501	3.31	82.38	21.38	1.82	12.10	82.63	3.71	.4175	3.79
			6.0	81.60	21.12	2.16	12.10	82.64	5.60	.4112	3.74	82.46	19.65	2.02	12.10	82.68	4.58	.3714	4.37
			7.0	81.68	20.00	2.39	12.10	82.67	6.92	.3816	4.09	82.50	18.50	2.22	12.09	82.72	5.59	.3356	4.88
			8.0	81.72	19.23	2.63	12.10	82.70	8.43	.3588	4.38	82.53	17.70	2.43	12.09	82.74	6.74	.3075	5.32
			10.0	81.78	18.26	3.13	12.09	82.72	12.03	.3273	4.81	82.56	16.68	2.87	12.09	82.77	9.45	.2678	6.04
			12.0	81.81	17.69	3.65	12.09	82.74	16.39	.3073	5.12	82.58	16.09	3.33	12.09	82.79	12.73	.2420	6.58
			14.0	81.83	17.34	4.17	12.09	82.75	21.52	.2940	5.34	82.59	15.71	3.79	12.09	82.80	16.60	.2247	6.99
			16.0	81.84	17.10	4.71	12.09	82.76	27.44	.2848	5.49	82.60	15.46	4.26	12.09	82.80	21.05	.2125	7.30
			18.0	81.84	16.94	5.24	12.09	82.76	34.14	.2782	5.61	82.60	15.28	4.74	12.09	82.81	26.08	.2037	7.54
			20.0	81.85	16.82	5.79	12.09	82.77	41.63	.2733	5.70	82.60	15.15	5.23	12.09	82.81	31.71	.1972	7.73
			30.0	81.86	16.53	8.53	12.09	82.77	90.85	.2612	5.92	82.61	14.84	7.68	12.09	82.82	66.67	.1808	8.24

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES-Continued

(h) $\epsilon_p = 60°$; $\Gamma = 30°$, $\epsilon_r = 90°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.06	1.73	88.99	1.06	1.73	88.99	1.06	1.73	88.99	1.05	1.73	88.99	1.05	1.73	88.99	1.05	1.73	88.99
1.08	1.73	88.99	1.07	1.73	88.99	1.07	1.73	88.99	1.07	1.73	88.99	1.07	1.73	88.99	1.07	1.73	88.99
1.09	1.73	88.99	1.09	1.73	88.99	1.09	1.73	88.99	1.09	1.73	88.99	1.09	1.73	88.99	1.08	1.73	88.99
1.11	1.73	88.99	1.11	1.73	88.99	1.11	1.73	88.99	1.11	1.73	88.99	1.10	1.73	88.99	1.10	1.73	88.99
1.13	1.73	89.00	1.13	1.73	89.00	1.13	1.73	89.00	1.12	1.73	89.00	1.12	1.73	89.00	1.12	1.73	89.00
1.15	1.73	89.00	1.15	1.73	89.00	1.15	1.73	89.00	1.14	1.73	89.00	1.14	1.73	89.00	1.14	1.73	89.00
1.19	1.73	89.00	1.19	1.73	89.00	1.19	1.73	89.00	1.18	1.73	89.00	1.18	1.73	89.00	1.17	1.73	89.00
1.24	1.73	89.00	1.23	1.73	89.00	1.23	1.73	89.00	1.22	1.73	89.00	1.21	1.73	89.00	1.21	1.73	89.00
1.28	1.73	89.00	1.27	1.73	89.00	1.27	1.73	89.00	1.26	1.73	89.00	1.25	1.73	89.00	1.25	1.73	89.00
1.32	1.73	89.00	1.32	1.73	89.00	1.31	1.73	89.00	1.30	1.73	89.00	1.29	1.73	89.00	1.29	1.73	89.00
1.37	1.73	89.00	1.36	1.73	89.00	1.35	1.73	89.00	1.34	1.73	89.00	1.33	1.73	89.00	1.33	1.73	89.00
1.42	1.73	89.00	1.41	1.73	89.00	1.40	1.73	89.00	1.39	1.73	89.00	1.38	1.73	89.00	1.37	1.73	89.00
1.67	1.73	89.00	1.65	1.73	89.00	1.63	1.73	89.00	1.62	1.73	89.00	1.60	1.73	89.00	1.58	1.73	89.00
1.12	3.46	87.96	1.12	3.46	87.96	1.11	3.46	87.96	1.11	3.46	87.96	1.11	3.46	87.96	1.11	3.46	87.96
1.16	3.46	87.97	1.15	3.46	87.97	1.15	3.46	87.97	1.15	3.46	87.97	1.14	3.46	87.97	1.14	3.46	87.97
1.20	3.46	87.98	1.19	3.46	87.98	1.19	3.46	87.98	1.18	3.46	87.98	1.18	3.46	87.98	1.17	3.46	87.98
1.24	3.46	87.98	1.23	3.46	87.98	1.23	3.46	87.98	1.22	3.46	87.98	1.22	3.46	87.98	1.21	3.46	87.98
1.28	3.46	87.98	1.27	3.46	87.98	1.27	3.46	87.98	1.26	3.46	87.98	1.25	3.46	87.98	1.25	3.46	87.98
1.33	3.46	87.98	1.32	3.46	87.98	1.31	3.46	87.98	1.30	3.46	87.98	1.29	3.46	87.99	1.29	3.46	87.99
1.42	3.46	87.99	1.41	3.46	87.99	1.40	3.46	87.99	1.39	3.46	87.99	1.38	3.46	87.99	1.37	3.46	87.99
1.51	3.46	87.99	1.50	3.46	87.99	1.49	3.46	87.99	1.48	3.46	87.99	1.46	3.46	87.99	1.45	3.46	87.99
1.61	3.46	87.99	1.60	3.46	87.99	1.58	3.46	87.99	1.57	3.46	87.99	1.55	3.46	87.99	1.54	3.46	87.99
1.72	3.46	87.99	1.70	3.46	87.99	1.68	3.46	87.99	1.66	3.46	87.99	1.65	3.46	87.99	1.63	3.46	87.99
1.83	3.46	87.99	1.81	3.46	87.99	1.78	3.46	87.99	1.76	3.46	87.99	1.74	3.46	87.99	1.72	3.46	87.99
1.94	3.46	87.99	1.91	3.46	87.99	1.89	3.46	87.99	1.87	3.46	87.99	1.84	3.46	87.99	1.82	3.46	87.99
2.53	3.46	87.99	2.49	3.46	87.99	2.45	3.46	87.99	2.41	3.46	88.00	2.37	3.46	88.00	2.33	3.46	88.00
1.18	5.19	86.90	1.18	5.19	86.90	1.17	5.19	86.90	1.17	5.19	86.90	1.16	5.19	86.90	1.16	5.19	86.90
1.24	5.19	86.93	1.24	5.19	86.93	1.23	5.19	86.93	1.22	5.19	86.93	1.22	5.19	86.93	1.21	5.19	86.93
1.31	5.19	86.94	1.30	5.19	86.94	1.29	5.19	86.94	1.28	5.19	86.94	1.28	5.19	86.94	1.27	5.19	86.95
1.37	5.19	86.95	1.36	5.19	86.95	1.35	5.19	86.95	1.35	5.19	86.95	1.34	5.19	86.95	1.33	5.19	86.95
1.44	5.19	86.96	1.43	5.19	86.96	1.42	5.19	86.96	1.41	5.19	86.96	1.40	5.19	86.96	1.39	5.19	86.96
1.52	5.19	86.96	1.50	5.19	86.96	1.49	5.19	86.96	1.48	5.19	86.97	1.46	5.19	86.97	1.45	5.19	86.97
1.67	5.19	86.97	1.65	5.19	86.97	1.63	5.19	86.97	1.62	5.19	86.97	1.60	5.19	86.97	1.58	5.19	86.97
1.83	5.19	86.97	1.81	5.19	86.98	1.78	5.19	86.98	1.76	5.19	86.98	1.74	5.19	86.98	1.72	5.19	86.98
1.99	5.19	86.98	1.97	5.19	86.98	1.94	5.19	86.98	1.92	5.19	86.98	1.89	5.19	86.98	1.87	5.19	86.98
2.17	5.19	86.98	2.14	5.19	86.98	2.11	5.19	86.98	2.08	5.19	86.98	2.05	5.19	86.98	2.02	5.19	86.98
2.34	5.19	86.98	2.31	5.19	86.98	2.27	5.19	86.98	2.24	5.19	86.98	2.21	5.19	86.98	2.17	5.19	86.98
2.52	5.19	86.98	2.49	5.19	86.98	2.45	5.19	86.98	2.41	5.19	86.98	2.37	5.19	86.98	2.33	5.19	86.98
3.48	5.19	86.98	3.42	5.19	86.99	3.35	5.19	86.99	3.29	5.19	86.99	3.23	5.19	86.99	3.17	5.19	86.99
1.25	6.92	85.82	1.24	6.92	85.82	1.24	6.92	85.82	1.23	6.92	85.82	1.22	6.92	85.82	1.22	6.92	85.82
1.33	6.92	85.87	1.32	6.92	85.87	1.32	6.92	85.87	1.31	6.92	85.87	1.30	6.92	85.87	1.29	6.92	85.87
1.42	6.92	85.90	1.41	6.92	85.90	1.40	6.92	85.90	1.39	6.92	85.90	1.38	6.92	85.90	1.37	6.92	85.90
1.52	6.92	85.91	1.50	6.92	85.91	1.49	6.92	85.92	1.48	6.92	85.92	1.47	6.92	85.92	1.45	6.92	85.92
1.62	6.92	85.92	1.60	6.92	85.93	1.59	6.92	85.93	1.57	6.92	85.93	1.55	6.92	85.93	1.54	6.92	85.93
1.72	6.92	85.93	1.70	6.92	85.93	1.68	6.92	85.94	1.67	6.92	85.94	1.65	6.92	85.94	1.63	6.92	85.94
1.94	6.92	85.94	1.91	6.92	85.95	1.89	6.92	85.95	1.86	6.92	85.95	1.84	6.92	85.95	1.82	6.92	85.95
2.16	6.92	85.95	2.13	6.92	85.95	2.10	6.92	85.95	2.08	6.92	85.95	2.05	6.92	85.96	2.02	6.92	85.96
2.40	6.92	85.96	2.37	6.92	85.96	2.33	6.92	85.96	2.29	6.92	85.96	2.26	6.92	85.96	2.22	6.92	85.96
2.65	6.92	85.96	2.60	6.92	85.96	2.56	6.92	85.96	2.52	6.92	85.96	2.48	6.92	85.96	2.44	6.92	85.96
2.90	6.92	85.96	2.85	6.92	85.96	2.80	6.92	85.96	2.75	6.92	85.96	2.70	6.92	85.97	2.66	6.92	85.97
3.15	6.92	85.96	3.10	6.92	85.96	3.04	6.92	85.96	2.99	6.92	85.97	2.93	6.92	85.97	2.88	6.92	85.97
4.47	6.92	85.97	4.39	6.92	85.97	4.30	6.92	85.97	4.22	6.92	85.97	4.13	6.92	85.97	4.04	6.92	85.97
1.32	8.65	84.71	1.31	8.65	84.71	1.30	8.65	84.71	1.29	8.65	84.72	1.28	8.65	84.72	1.28	8.65	84.72
1.43	8.65	84.79	1.41	8.65	84.79	1.40	8.65	84.79	1.39	8.65	84.80	1.38	8.65	84.80	1.37	8.65	84.80
1.54	8.65	84.83	1.53	8.65	84.83	1.52	8.65	84.84	1.50	8.65	84.84	1.49	8.65	84.84	1.48	8.65	84.84
1.67	8.65	84.86	1.65	8.65	84.86	1.63	8.65	84.86	1.62	8.65	84.87	1.60	8.65	84.87	1.58	8.65	84.87
1.80	8.65	84.88	1.78	8.65	84.88	1.76	8.65	84.88	1.74	8.65	84.88	1.72	8.65	84.89	1.70	8.65	84.89
1.94	8.65	84.89	1.91	8.65	84.89	1.89	8.65	84.89	1.86	8.65	84.90	1.84	8.65	84.90	1.82	8.65	84.90
2.22	8.65	84.90	2.19	8.65	84.91	2.16	8.65	84.91	2.13	8.65	84.91	2.10	8.65	84.91	2.07	8.65	84.92
2.52	8.65	84.91	2.48	8.65	84.92	2.44	8.65	84.92	2.40	8.65	84.92	2.36	8.65	84.92	2.33	8.65	84.93
2.83	8.65	84.92	2.78	8.65	84.92	2.74	8.65	84.93	2.69	8.65	84.93	2.64	8.65	84.93	2.60	8.65	84.93
3.15	8.65	84.93	3.09	8.65	84.93	3.04	8.65	84.93	2.98	8.65	84.93	2.93	8.65	84.94	2.88	8.65	84.94
3.47	8.65	84.93	3.41	8.65	84.93	3.35	8.65	84.93	3.28	8.65	84.94	3.22	8.65	84.94	3.16	8.65	84.94
3.80	8.65	84.93	3.73	8.65	84.93	3.66	8.65	84.94	3.59	8.65	84.94	3.52	8.65	84.94	3.45	8.65	84.94
5.49	8.65	84.94	5.38	8.65	84.94	5.27	8.65	84.94	5.16	8.65	84.94	5.05	8.65	84.95	4.94	8.65	84.95
1.39	10.38	83.57	1.38	10.38	83.57	1.37	10.38	83.58	1.36	10.38	83.58	1.35	10.38	83.59	1.34	10.38	83.59
1.52	10.38	83.69	1.51	10.38	83.69	1.50	10.38	83.70	1.48	10.38	83.70	1.47	10.38	83.70	1.46	10.38	83.71
1.67	10.37	83.75	1.65	10.37	83.75	1.64	10.37	83.76	1.62	10.37	83.76	1.60	10.37	83.77	1.59	10.37	83.77
1.83	10.37	83.79	1.81	10.37	83.79	1.78	10.37	83.79	1.76	10.37	83.80	1.74	10.37	83.80	1.72	10.37	83.81
1.99	10.37	83.81	1.97	10.37	83.82	1.94	10.37	83.82	1.92	10.37	83.82	1.89	10.37	83.83	1.86	10.37	83.83
2.16	10.37	83.83	2.13	10.37	83.83	2.10	10.37	83.84	2.07	10.37	83.84	2.04	10.37	83.85	2.01	10.37	83.85
2.52	10.37	83.85	2.48	10.37	83.85	2.44	10.37	83.86	2.40	10.37	83.86	2.36	10.37	83.87	2.32	10.37	83.87
2.89	10.37	83.86	2.84	10.37	83.87	2.79	10.37	83.87	2.74	10.37	83.88	2.70	10.37	83.88	2.65	10.37	83.89
3.27	10.37	83.87	3.21	10.37	83.88	3.16	10.37	83.88	3.10	10.37	83.89	3.04	10.37	83.89	2.98	10.37	83.90
3.66	10.37	83.88	3.59	10.37	83.88	3.53	10.37	83.89	3.46	10.37	83.89	3.39	10.37	83.90	3.33	10.37	83.90
4.06	10.37	83.88	3.98	10.37	83.89	3.90	10.37	83.89	3.83	10.37	83.90	3.75	10.37	83.90	3.68	10.37	83.91
4.46	10.37	83.88	4.37	10.37	83.89	4.29	10.37	83.89	4.20	10.37	83.90	4.12	10.37	83.90	4.03	10.37	83.91
6.51	10.37	83.89	6.37	10.37	83.90	6.24	10.37	83.90	6.11	10.37	83.91	5.98	10.37	83.91	5.84	10.37	83.92
1.46	12.10	82.39	1.45	12.10	82.40	1.43	12.10	82.41	1.42	12.10	82.42	1.41	12.10	82.43	1.40	12.10	82.43
1.62	12.10	82.56	1.61	12.10	82.57	1.59	12.10	82.57	1.57	12.10	82.58	1.56	12.10	82.58	1.54	12.10	82.60
1.80	12.10	82.64	1.78	12.10	82.65	1.76	12.10	82.66	1.74	12.10	82.66	1.72	12.10	82.67	1.70	12.10	82.68
1.99	12.10	82.69	1.97	12.10	82.70	1.94	12.10	82.71	1.91	12.09	82.71	1.89	12.09	82.72	1.86	12.09	82.73
2.19	12.09	82.73	2.16	12.09	82.73	2.13	12.09	82.74	2.10	12.09	82.75	2.07	12.09	82.76	2.04	12.09	82.76
2.40	12.09	82.75	2.36	12.09	82.76	2.32	12.09	82.76	2.29	12.09	82.77	2.25	12.09	82.78	2.22	12.09	82.79
2.82	12.09	82.78	2.78	12.09	82.78	2.73	12.09	82.79	2.68	12.09	82.80	2.64	12.09	82.81	2.59	12.09	82.82
3.27	12.09	82.79	3.21	12.09	82.80	3.15	12.09	82.81	3.09	12.09	82.82	3.03	12.09	82.82	2.98	12.09	82.83
3.72	12.09	82.80	3.65	12.09	82.81	3.58	12.09	82.82	3.51	12.09	82.83	3.45	12.09	82.84	3.38	12.09	82.84
4.18	12.09	82.81	4.10	12.09	82.82	4.02	12.09	82.83	3.94	12.09	82.84	3.86	12.09	82.84	3.79	12.09	82.85
4.65	12.09	82.82	4.56	12.09	82.82	4.47	12.09	82.83	4.38	12.09	82.84	4.29	12.09	82.85	4.20	12.09	82.86
5.12	12.09	82.82	5.02	12.09	82.83	4.92	12.09	82.84	4.82	12.09	82.84	4.72	12.09	82.85	4.62	12.09	82.86
7.52	12.09	82.83	7.37	12.09	82.84	7.21	12.09	82.85	7.06	12.09	82.85	6.90	12.09	82.86	6.75	12.09	82.87

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(h) $\epsilon_p = 60°$; $\Gamma = 30°$; $\epsilon_r = 90°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$ θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	$\gamma_e = \gamma_\infty = 1.40$ θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	13.95	82.08	3.0	79.06	32.85	1.63	13.83	81.08	3.06	.5338	2.09	80.54	31.04	1.55	13.83	81.16	2.63	.5148	2.31
			4.0	79.89	27.60	1.85	13.82	81.31	4.04	.4691	2.65	81.09	25.87	1.75	13.82	81.39	3.39	.4403	3.01
			5.0	80.21	24.84	2.10	13.82	81.43	5.27	.4208	3.11	81.29	23.10	1.96	13.81	81.50	4.32	.3833	3.62
			6.0	80.37	23.18	2.36	13.81	81.49	6.73	.3852	3.47	81.38	21.42	2.19	13.81	81.56	5.43	.3403	4.14
			7.0	80.46	22.11	2.63	13.81	81.54	8.43	.3589	3.77	81.44	20.31	2.43	13.81	81.60	6.72	.3078	4.59
			8.0	80.52	21.37	2.92	13.81	81.56	10.38	.3391	4.01	81.47	19.55	2.68	13.81	81.63	8.19	.2830	4.98
			10.0	80.59	20.46	3.49	13.81	81.60	15.03	.3123	4.35	81.51	18.59	3.19	13.81	81.67	11.69	.2486	5.58
			12.0	80.62	19.93	4.09	13.81	81.62	20.68	.2957	4.59	81.53	18.04	3.72	13.81	81.69	15.94	.2270	5.01
			14.0	80.64	19.61	4.70	13.81	81.63	27.36	.2849	4.75	81.54	17.69	4.25	13.81	81.70	20.95	.2127	6.33
			16.0	80.65	19.39	5.31	13.81	81.64	35.05	.2775	4.86	81.55	17.45	4.80	13.81	81.71	26.72	.2028	6.57
			18.0	80.66	19.24	5.93	13.81	81.64	43.76	.2722	4.95	81.55	17.30	5.35	13.81	81.72	33.26	.1958	6.75
			20.0	80.67	19.13	6.55	13.81	81.65	53.49	.2684	5.01	81.56	17.18	5.91	13.81	81.72	40.56	.1905	6.89
			30.0	80.68	18.87	9.70	13.81	81.66	117.5	.2589	5.17	81.57	16.90	8.72	13.81	81.73	88.56	.1776	7.25
18	15.72	81.11	3.0	77.55	34.99	1.72	15.55	79.76	3.45	.5041	1.98	79.31	32.81	1.63	15.55	79.89	2.92	.4820	2.23
			4.0	78.56	29.67	1.98	15.54	80.07	4.65	.4420	2.50	79.96	27.61	1.85	15.53	80.18	3.84	.4091	2.89
			5.0	78.94	26.94	2.26	15.53	80.22	6.17	.3970	2.91	80.20	24.89	2.10	15.53	80.33	4.99	.3550	3.45
			6.0	79.13	25.32	2.57	15.53	80.30	7.99	.3647	3.23	80.31	23.24	2.37	15.53	80.41	6.37	.3154	3.92
			7.0	79.24	24.28	2.88	15.53	80.36	10.11	.3413	3.47	80.37	22.18	2.64	15.53	80.46	7.98	.2860	4.32
			8.0	79.30	23.58	3.20	15.53	80.39	12.56	.3241	3.67	80.41	21.45	2.93	15.52	80.50	9.82	.2641	4.65
			10.0	79.38	22.71	3.86	15.53	80.43	18.40	.3012	3.95	80.45	20.54	3.51	15.52	80.54	14.20	.2343	5.15
			12.0	79.42	22.22	4.54	15.53	80.46	25.51	.2873	4.13	80.48	20.03	4.11	15.52	80.56	19.53	.2160	5.51
			14.0	79.45	21.92	5.23	15.53	80.47	33.90	.2784	4.25	80.49	19.70	4.72	15.52	80.58	25.83	.2041	5.76
			16.0	79.46	21.71	5.92	15.53	80.48	43.59	.2723	4.34	80.50	19.49	5.34	15.52	80.59	33.08	.1959	5.94
			18.0	79.47	21.58	6.62	15.52	80.49	54.55	.2680	4.40	80.51	19.34	5.96	15.52	80.60	41.30	.1901	6.08
			20.0	79.48	21.47	7.32	15.52	80.49	66.81	.2649	4.45	80.51	19.23	6.59	15.52	80.60	50.48	.1859	6.18
			30.0	79.50	21.23	10.37	15.52	80.51	147.4	.2573	4.56	80.52	18.98	9.75	15.52	80.61	110.8	.1754	6.45
20	17.50	80.15	3.0	75.98	37.26	1.82	17.28	78.35	3.88	.4780	1.87	78.07	34.65	1.71	17.27	78.56	3.23	.4530	2.14
			4.0	77.19	31.84	2.11	17.25	78.77	5.32	.4191	2.45	78.83	29.42	1.96	17.25	78.94	4.34	.3825	2.77
			5.0	77.65	29.12	2.43	17.24	78.96	7.15	.3775	2.72	79.10	26.71	2.25	17.24	79.12	5.73	.3316	3.29
			6.0	77.87	27.53	2.77	17.24	79.06	9.37	.3483	2.99	79.23	25.11	2.55	17.24	79.22	7.40	.2952	3.71
			7.0	77.99	26.52	3.13	17.24	79.13	11.97	.3276	3.20	79.31	24.09	2.86	17.23	79.28	9.35	.2688	4.06
			8.0	78.07	25.85	3.49	17.24	79.17	14.96	.3125	3.37	79.35	23.39	3.18	17.23	79.32	11.60	.2493	4.34
			10.0	78.16	25.02	4.23	17.24	79.22	22.12	.2928	3.59	79.40	22.53	3.83	17.23	79.38	16.96	.2234	4.77
			12.0	78.21	24.55	4.99	17.23	79.25	30.85	.2811	3.74	79.43	22.04	4.50	17.23	79.41	23.49	.2078	5.05
			14.0	78.24	24.26	5.75	17.23	79.27	41.15	.2736	3.83	79.45	21.74	5.18	17.23	79.42	31.20	.1977	5.25
			16.0	78.26	24.08	6.53	17.23	79.28	53.04	.2685	3.90	79.46	21.54	5.87	17.23	79.44	40.09	.1908	5.40
			18.0	78.27	23.94	7.31	17.23	79.29	66.51	.2650	3.95	79.46	21.40	6.57	17.23	79.44	50.16	.1860	5.52
			20.0	78.28	23.85	8.09	17.23	79.30	81.56	.2624	3.98	79.47	21.30	7.26	17.23	79.45	61.41	.1825	5.58
			30.0	78.30	23.69	12.02	17.23	79.31	180.6	.2561	4.07	79.48	21.06	10.78	17.23	79.46	135.4	.1738	5.75
22	19.28	79.20	3.0	74.31	39.70	1.92	19.01	76.84	4.34	.4549	1.76	76.80	36.58	1.79	18.98	77.15	3.56	.4274	2.05
			4.0	75.78	34.12	2.24	18.97	77.39	6.05	.3997	2.21	77.69	31.29	2.08	18.95	77.64	4.87	.3598	2.64
			5.0	76.32	31.39	2.60	18.95	77.63	8.23	.3614	2.53	78.01	28.60	2.39	18.94	77.86	6.52	.3121	3.10
			6.0	76.58	29.82	2.98	18.95	77.76	10.88	.3351	2.78	78.16	27.03	2.73	18.94	77.98	8.51	.2787	3.51
			7.0	76.73	28.83	3.38	18.94	77.84	14.00	.3167	2.96	78.24	26.04	3.07	18.94	78.06	10.85	.2549	3.81
			8.0	76.82	28.17	3.78	18.94	77.89	17.60	.3034	3.09	78.29	25.36	3.43	18.94	78.11	13.53	.2376	4.06
			10.0	76.93	27.37	4.60	18.94	77.96	26.20	.2864	3.28	78.35	24.54	4.15	18.93	78.18	19.96	.2150	4.41
			12.0	76.98	26.93	5.43	18.94	77.99	36.69	.2763	3.39	78.38	24.08	4.90	18.93	78.21	27.79	.2014	4.65
			14.0	77.02	26.65	6.28	18.94	78.01	49.09	.2699	3.47	78.40	23.79	5.65	18.93	78.23	37.05	.1928	4.81
			16.0	77.04	26.48	7.13	18.94	78.03	63.39	.2657	3.52	78.41	23.60	6.41	18.93	78.25	47.72	.1870	4.92
			18.0	77.05	26.35	7.99	18.94	78.04	79.60	.2627	3.56	78.42	23.47	7.17	18.93	78.25	59.81	.1829	5.01
			20.0	77.06	26.26	8.85	18.94	78.04	97.71	.2605	3.58	78.43	23.38	7.94	18.93	78.26	73.32	.1799	5.07
			30.0	77.09	26.05	13.17	18.94	78.06	216.9	.2553	3.65	78.44	23.16	11.80	18.93	78.28	162.2	.1727	5.23
24	21.09	78.27	3.0	72.49	42.34	2.02	20.74	75.18	4.86	.4344	1.64	75.48	38.60	1.87	20.70	75.66	3.92	.4046	1.96
			4.0	74.30	36.52	2.38	20.68	75.91	6.84	.3831	2.06	76.54	33.22	2.19	20.66	76.27	5.43	.3402	2.52
			5.0	74.95	33.75	2.78	20.66	76.22	9.40	.3480	2.36	76.90	30.54	2.54	20.64	76.55	7.37	.2957	2.96
			6.0	75.26	32.19	3.20	20.65	76.38	12.53	.3243	2.57	77.08	29.00	2.91	20.64	76.70	9.70	.2652	3.31
			7.0	75.43	31.21	3.63	20.65	76.48	16.21	.3077	2.73	77.18	28.03	3.29	20.63	76.79	12.45	.2437	3.58
			8.0	75.54	30.57	4.07	20.64	76.55	20.45	.2962	2.84	77.24	27.37	3.68	20.63	76.85	15.62	.2283	3.79
			10.0	75.66	29.79	4.97	20.64	76.62	30.62	.2813	3.00	77.30	26.58	4.47	20.63	76.93	23.19	.2087	4.09
			12.0	75.73	29.36	5.88	20.64	76.67	43.04	.2726	3.09	77.34	26.14	5.29	20.63	76.97	32.44	.1965	4.29
			14.0	75.77	29.09	6.81	20.64	76.69	57.71	.2671	3.15	77.36	25.87	6.11	20.63	76.99	43.35	.1890	4.42
			16.0	75.79	28.92	7.74	20.64	76.71	74.63	.2634	3.19	77.37	25.69	6.94	20.63	77.01	55.95	.1840	4.51
			18.0	75.81	28.80	8.67	20.64	76.72	93.81	.2609	3.22	77.38	25.56	7.77	20.63	77.02	70.21	.1805	4.58
			20.0	75.82	28.71	9.61	20.64	76.73	115.2	.2590	3.24	77.39	25.47	8.60	20.63	77.03	86.16	.1779	4.63
			30.0	75.85	28.51	14.32	20.64	76.75	256.2	.2546	3.30	77.40	25.26	12.80	20.63	77.05	191.1	.1718	4.75
26	22.90	77.34	3.0	70.43	45.27	2.13	22.50	73.31	5.43	.4158	1.52	74.12	40.72	1.96	22.42	74.06	4.30	.3843	1.86
			4.0	72.73	39.06	2.52	22.39	74.31	7.70	.3685	1.92	75.36	35.21	2.31	22.36	74.84	6.04	.3233	2.40
			5.0	73.51	36.22	2.95	22.37	74.71	10.67	.3368	2.19	75.79	32.53	2.69	22.34	75.17	8.27	.2819	2.81
			6.0	73.88	34.64	3.41	22.36	74.91	14.30	.3153	2.38	76.00	31.01	3.09	22.33	75.36	10.98	.2539	3.12
			7.0	74.09	33.67	3.88	22.35	75.03	18.59	.3007	2.51	76.11	30.05	3.51	22.33	75.47	14.17	.2345	3.35
			8.0	74.22	33.03	4.36	22.34	75.11	23.54	.2903	2.61	76.18	29.41	3.93	22.32	75.54	17.84	.2206	3.54
			10.0	74.37	32.26	5.34	22.34	75.21	35.34	.2772	2.74	76.25	28.65	4.79	22.32	75.63	26.65	.2029	3.80
			12.0	74.45	31.84	6.33	22.33	75.26	49.88	.2696	2.82	76.29	28.22	5.67	22.32	75.67	37.39	.1926	3.98
			14.0	74.49	31.58	7.33	22.33	75.29	67.00	.2649	2.87	76.32	27.96	6.56	22.32	75.70	50.09	.1860	4.07
			16.0	74.52	31.41	8.34	22.33	75.31	86.74	.2617	2.90	76.33	27.79	7.46	22.32	75.72	64.74	.1816	4.15
			18.0	74.54	31.30	9.35	22.33	75.32	109.1	.2595	2.93	76.34	27.67	8.36	22.32	75.74	81.33	.1786	4.20
			20.0	74.55	31.21	10.36	22.33	75.33	134.1	.2579	2.94	76.35	27.58	9.26	22.32	75.74	99.88	.1764	4.24
			30.0	74.59	31.02	15.46	22.33	75.36	298.7	.2541	2.99	76.37	27.38	13.80	22.32	75.77	221.9	.1710	4.34
28	24.72	76.42	3.0	67.95	48.69	2.25	24.30	71.10	6.10	.3984	1.39	72.67	42.97	2.04	24.14	72.32	4.71	.3660	1.77
			4.0	71.33	41.78	2.67	24.12	72.55	8.64	.3564	1.78	74.17	37.27	2.42	24.05	73.31	6.68	.3087	2.28
			5.0	71.99	38.82	3.13	24.07	73.06	12.04	.3272	2.03	74.67	34.58	2.84	24.02	73.72	9.23	.2702	2.65
			6.0	72.44	37.21	3.63	24.05	73.32	16.22	.3078	2.20	74.90	33.06	3.27	24.02	73.94	12.33	.2445	2.93
			7.0	72.70	36.23	4.14	24.04	73.48	21.16	.2947	2.31	75.02	32.11	3.72	24.01	74.08	15.99	.2268	3.14
			8.0	72.85	35.58	4.65	24.04	73.57	26.95	.2855	2.40	75.11	31.49	4.18	24.01	74.16	20.20	.2144	3.31
			10.0	73.02	34.81	5.71	24.04	73.69	40.52	.2739	2.51	75.20	30.74	5.11	24.00	74.26	30.31	.1986	3.53
			12.0	73.12	34.39	6.78	24.03	73.75	57.22	.2672	2.57	75.25	30.32	6.06	24.00	74.32	42.65	.1894	3.67
			14.0	73.17	34.14	7.86	24.03	73.79	76.96	.2631	2.62	75.28	30.07	7.01	24.00	74.35	57.24	.1836	3.76
			16.0	73.20	33.97	8.94	24.02	73.81	99.73	.2603	2.64	75.29	29.90	7.98	24.00	74.37	74.06	.1798	3.82
			18.0	73.23	33.86	10.03	24.02	73.83	125.5	.2584	2.66	75.31	29.79	8.94	24.00	74.39	93.13	.1771	3.87
			20.0	73.24	33.77	11.12	24.02	73.84	154.4	.2570	2.68	75.31	29.71	9.91	24.00	74.40	114.4	.1752	3.90
			30.0	73.28	33.58	16.59	24.02	73.87	344.1	.2547	2.71	75.33	29.51	14.78	24.00	74.43	254.6	.1705	3.98

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES-Continued

(h) $\epsilon_p = 60°$; $\Gamma = 30°$; $\epsilon_r = 90°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.53	13.83	81.18	1.52	13.83	81.19	1.50	13.82	81.20	1.49	13.82	81.22	1.48	13.82	81.23	1.46	13.82	81.24
1.73	13.82	81.40	1.71	13.82	81.41	1.69	13.82	81.42	1.67	13.82	81.43	1.65	13.82	81.45	1.63	13.82	81.46
1.94	13.81	81.51	1.91	13.81	81.52	1.89	13.81	81.53	1.86	13.81	81.54	1.84	13.81	81.56	1.82	13.81	81.57
2.16	13.81	81.57	2.13	13.81	81.59	2.10	13.81	81.60	2.07	13.81	81.61	2.04	13.81	81.62	2.01	13.81	81.63
2.39	13.81	81.62	2.36	13.81	81.63	2.32	13.81	81.64	2.28	13.81	81.65	2.25	13.81	81.66	2.21	13.81	81.67
2.63	13.81	81.65	2.59	13.81	81.66	2.55	13.81	81.67	2.51	13.81	81.68	2.46	13.81	81.69	2.42	13.81	81.70
3.13	13.81	81.68	3.08	13.81	81.69	3.02	13.81	81.71	2.97	13.81	81.72	2.91	13.81	81.73	2.86	13.81	81.74
3.65	13.81	81.70	3.58	13.81	81.71	3.51	13.81	81.73	3.45	13.81	81.74	3.38	13.81	81.75	3.31	13.81	81.76
4.17	13.81	81.71	4.09	13.81	81.73	4.01	13.81	81.74	3.93	13.81	81.75	3.85	13.81	81.76	3.78	13.81	81.78
4.71	13.81	81.72	4.61	13.81	81.74	4.52	13.81	81.75	4.43	13.81	81.76	4.34	13.81	81.77	4.25	13.81	81.78
5.25	13.81	81.73	5.14	13.81	81.74	5.04	13.81	81.75	4.93	13.81	81.77	4.83	13.81	81.78	4.72	13.81	81.79
5.79	13.81	81.73	5.67	13.81	81.75	5.56	13.81	81.76	5.44	13.81	81.77	5.32	13.81	81.78	5.21	13.81	81.80
8.54	13.81	81.74	8.36	13.81	81.76	8.18	13.81	81.77	8.01	13.81	81.78	7.83	13.81	81.79	7.65	13.81	81.81
1.61	15.55	79.91	1.59	15.54	79.93	1.58	15.54	79.96	1.56	15.54	79.98	1.54	15.54	80.00	1.53	15.54	80.02
1.83	15.53	80.20	1.81	15.53	80.22	1.79	15.53	80.24	1.77	15.53	80.26	1.74	15.53	80.28	1.72	15.53	80.29
2.07	15.53	80.34	2.05	15.53	80.36	2.02	15.53	80.38	1.99	15.53	80.40	1.96	15.53	80.42	1.93	15.53	80.43
2.33	15.53	80.43	2.30	15.53	80.44	2.26	15.53	80.46	2.23	15.53	80.48	2.19	15.52	80.50	2.16	15.52	80.51
2.60	15.53	80.48	2.56	15.52	80.50	2.52	15.52	80.51	2.47	15.52	80.53	2.43	15.52	80.55	2.39	15.52	80.57
2.88	15.52	80.51	2.83	15.52	80.53	2.78	15.52	80.55	2.73	15.52	80.57	2.68	15.52	80.59	2.63	15.52	80.60
3.45	15.52	80.56	3.38	15.52	80.58	3.32	15.52	80.59	3.26	15.52	80.61	3.19	15.52	80.63	3.13	15.52	80.65
4.03	15.52	80.58	3.95	15.52	80.60	3.88	15.52	80.62	3.80	15.52	80.64	3.72	15.52	80.66	3.65	15.52	80.67
4.63	15.52	80.60	4.54	15.52	80.62	4.45	15.52	80.64	4.36	15.52	80.65	4.27	15.52	80.67	4.18	15.52	80.69
5.23	15.52	80.61	5.13	15.52	80.63	5.02	15.52	80.65	4.92	15.52	80.66	4.81	15.52	80.68	4.71	15.52	80.70
5.84	15.52	80.62	5.72	15.52	80.63	5.60	15.52	80.65	5.49	15.52	80.67	5.37	15.52	80.69	5.25	15.52	80.71
6.45	15.52	80.62	6.32	15.52	80.64	6.19	15.52	80.66	6.06	15.52	80.68	5.93	15.52	80.69	5.79	15.52	80.71
9.55	15.52	80.63	9.35	15.52	80.65	9.15	15.52	80.67	8.95	15.52	80.69	8.75	15.52	80.71	8.55	15.52	80.73
1.69	17.26	78.59	1.67	17.26	78.62	1.65	17.26	78.66	1.63	17.26	78.69	1.61	17.26	78.72	1.59	17.25	78.75
1.94	17.24	78.96	1.91	17.24	78.99	1.89	17.24	79.02	1.86	17.24	79.05	1.84	17.24	79.07	1.81	17.24	79.10
2.21	17.24	79.14	2.18	17.24	79.17	2.15	17.24	79.20	2.12	17.24	79.22	2.09	17.23	79.25	2.05	17.23	79.27
2.51	17.23	79.24	2.47	17.23	79.27	2.43	17.23	79.30	2.39	17.23	79.32	2.35	17.23	79.35	2.31	17.23	79.37
2.81	17.23	79.31	2.76	17.23	79.33	2.71	17.23	79.36	2.67	17.23	79.39	2.62	17.23	79.41	2.57	17.23	79.44
3.12	17.23	79.35	3.06	17.23	79.38	3.01	17.23	79.40	2.95	17.23	79.43	2.90	17.23	79.45	2.84	17.23	79.48
3.76	17.23	79.40	3.69	17.23	79.43	3.62	17.23	79.46	3.55	17.23	79.48	3.48	17.23	79.51	3.41	17.23	79.53
4.42	17.23	79.43	4.33	17.23	79.46	4.24	17.23	79.49	4.16	17.23	79.51	4.07	17.23	79.54	3.99	17.23	79.56
5.08	17.23	79.45	4.98	17.23	79.48	4.88	17.23	79.50	4.78	17.23	79.53	4.68	17.23	79.56	4.58	17.23	79.58
5.76	17.23	79.46	5.64	17.23	79.49	5.52	17.23	79.52	5.40	17.23	79.54	5.29	17.23	79.57	5.17	17.23	79.59
6.43	17.23	79.47	6.30	17.23	79.50	6.17	17.23	79.52	6.04	17.23	79.55	5.90	17.23	79.58	5.77	17.23	79.60
7.12	17.23	79.48	6.97	17.23	79.50	6.82	17.23	79.53	6.67	17.23	79.56	6.52	17.23	79.58	6.38	17.23	79.61
10.55	17.23	79.49	10.33	17.23	79.52	10.11	17.23	79.55	9.88	17.23	79.57	9.66	17.23	79.60	9.44	17.23	79.62
1.77	18.98	77.20	1.74	18.98	77.25	1.72	18.97	77.30	1.70	18.97	77.35	1.68	18.97	77.39	1.66	18.96	77.43
2.05	18.95	77.68	2.02	18.95	77.72	1.99	18.95	77.76	1.96	18.95	77.80	1.93	18.94	77.83	1.91	18.94	77.87
2.36	18.94	77.90	2.32	18.94	77.94	2.28	18.94	77.97	2.25	18.94	78.01	2.21	18.94	78.05	2.18	18.94	78.08
2.68	18.94	78.02	2.64	18.94	78.06	2.59	18.94	78.10	2.55	18.94	78.13	2.50	18.93	78.17	2.46	18.93	78.20
3.02	18.94	78.10	2.96	18.94	78.14	2.91	18.93	78.17	2.86	18.93	78.21	2.81	18.93	78.24	2.75	18.93	78.28
3.36	18.94	78.15	3.30	18.93	78.19	3.24	18.93	78.22	3.18	18.93	78.26	3.12	18.93	78.29	3.06	18.93	78.33
4.07	18.93	78.21	3.99	18.93	78.25	3.91	18.93	78.29	3.84	18.93	78.32	3.76	18.93	78.36	3.68	18.93	78.39
4.80	18.93	78.25	4.70	18.93	78.28	4.61	18.93	78.32	4.51	18.93	78.36	4.42	18.93	78.39	4.32	18.93	78.43
5.53	18.93	78.27	5.42	18.93	78.31	5.31	18.93	78.34	5.19	18.93	78.38	5.08	18.93	78.41	4.97	18.93	78.45
6.28	18.93	78.28	6.14	18.93	78.32	6.02	18.93	78.36	5.89	18.93	78.39	5.76	18.93	78.43	5.63	18.93	78.46
7.02	18.93	78.29	6.87	18.93	78.33	6.73	18.93	78.37	6.58	18.93	78.40	6.44	18.93	78.44	6.29	18.93	78.47
7.77	18.93	78.30	7.61	18.93	78.34	7.44	18.93	78.37	7.28	18.93	78.41	7.12	18.93	78.44	6.96	18.93	78.48
11.55	18.93	78.32	11.30	18.93	78.35	11.05	18.93	78.39	10.81	18.93	78.43	10.56	18.93	78.46	10.32	18.93	78.50
1.85	20.69	75.74	1.82	20.69	75.81	1.80	20.68	75.88	1.77	20.68	75.94	1.75	20.67	76.00	1.73	20.67	76.06
2.16	20.65	76.33	2.13	20.65	76.39	2.09	20.65	76.45	2.06	20.65	76.50	2.03	20.64	76.55	2.00	20.64	76.60
2.50	20.64	76.60	2.46	20.64	76.66	2.42	20.64	76.71	2.38	20.64	76.76	2.34	20.63	76.81	2.30	20.63	76.86
2.86	20.64	76.75	2.81	20.63	76.81	2.76	20.63	76.86	2.71	20.63	76.90	2.66	20.63	76.95	2.61	20.63	77.00
3.23	20.63	76.85	3.17	20.63	76.90	3.11	20.63	76.95	3.05	20.63	76.99	2.99	20.63	77.04	2.94	20.63	77.09
3.61	20.63	76.91	3.54	20.63	76.96	3.47	20.63	77.01	3.40	20.63	77.06	3.34	20.63	77.10	3.27	20.63	77.15
4.39	20.63	76.98	4.30	20.63	77.03	4.21	20.63	77.08	4.13	20.63	77.13	4.04	20.63	77.17	3.96	20.63	77.22
5.18	20.63	77.02	5.07	20.63	77.07	4.97	20.63	77.12	4.86	20.63	77.17	4.76	20.63	77.22	4.66	20.63	77.26
5.98	20.63	77.04	5.86	20.63	77.10	5.73	20.63	77.14	5.61	20.63	77.19	5.49	20.63	77.24	5.37	20.63	77.29
6.79	20.63	77.06	6.65	20.63	77.11	6.51	20.63	77.16	6.36	20.63	77.21	6.22	20.63	77.26	6.08	20.63	77.30
7.60	20.63	77.07	7.44	20.63	77.12	7.28	20.63	77.17	7.12	20.63	77.22	6.96	20.63	77.27	6.81	20.63	77.31
8.42	20.63	77.08	8.24	20.63	77.13	8.06	20.63	77.18	7.88	20.63	77.23	7.71	20.63	77.28	7.53	20.63	77.32
12.53	20.63	77.10	12.26	20.63	77.15	11.99	20.63	77.20	11.72	20.63	77.25	11.45	20.63	77.30	11.19	20.62	77.34
1.93	22.41	74.17	1.90	22.40	74.28	1.87	22.39	74.37	1.85	22.38	74.46	1.82	22.38	74.55	1.79	22.37	74.63
2.27	22.35	74.92	2.23	22.35	75.00	2.20	22.34	75.08	2.16	22.34	75.15	2.13	22.34	75.22	2.09	22.33	75.29
2.64	22.33	75.25	2.60	22.33	75.32	2.55	22.33	75.39	2.51	22.33	75.46	2.46	22.32	75.53	2.42	22.32	75.59
3.03	22.33	75.43	2.98	22.32	75.50	2.92	22.32	75.57	2.87	22.32	75.63	2.82	22.32	75.70	2.76	22.32	75.76
3.44	22.32	75.54	3.37	22.32	75.61	3.31	22.32	75.68	3.24	22.32	75.74	3.18	22.32	75.80	3.12	22.32	75.87
3.85	22.32	75.61	3.78	22.32	75.68	3.70	22.32	75.75	3.63	22.32	75.81	3.55	22.32	75.87	3.48	22.31	75.94
4.70	22.32	75.70	4.60	22.32	75.76	4.51	22.32	75.83	4.41	22.31	75.90	4.32	22.31	75.96	4.23	22.31	76.02
5.56	22.32	75.74	5.44	22.32	75.81	5.33	22.32	75.88	5.21	22.31	75.94	5.10	22.31	76.00	4.99	22.31	76.07
6.43	22.32	75.77	6.29	22.32	75.84	6.16	22.31	75.91	6.02	22.31	75.97	5.89	22.31	76.03	5.76	22.31	76.09
7.30	22.32	75.79	7.15	22.32	75.86	6.99	22.31	75.92	6.84	22.31	75.99	6.69	22.31	76.05	6.53	22.31	76.11
8.18	22.32	75.80	8.00	22.32	75.87	7.83	22.31	75.94	7.66	22.31	76.00	7.49	22.31	76.06	7.32	22.31	76.13
9.06	22.32	75.81	8.87	22.32	75.88	8.67	22.31	75.95	8.48	22.31	76.01	8.29	22.31	76.07	8.10	22.31	76.14
13.50	22.32	75.84	13.20	22.31	75.90	12.91	22.31	75.97	12.62	22.31	76.03	12.33	22.31	76.10	12.05	22.31	76.16
2.01	24.12	72.48	1.98	24.11	72.63	1.95	24.10	72.77	1.92	24.09	72.90	1.89	24.08	73.02	1.86	24.07	73.13
2.38	24.05	73.43	2.34	24.04	73.54	2.30	24.03	73.64	2.26	24.03	73.74	2.23	24.02	73.84	2.19	24.02	73.93
2.79	24.02	73.83	2.74	24.02	73.93	2.69	24.01	74.02	2.64	24.01	74.11	2.59	24.01	74.20	2.54	24.00	74.29
3.21	24.01	74.04	3.15	24.01	74.14	3.09	24.01	74.23	3.03	24.00	74.32	2.97	24.00	74.40	2.92	24.00	74.48
3.65	24.01	74.17	3.58	24.00	74.26	3.51	24.00	74.35	3.44	24.00	74.44	3.37	24.00	74.52	3.30	23.99	74.60
4.10	24.00	74.26	4.01	24.00	74.35	3.93	24.00	74.44	3.85	24.00	74.52	3.77	23.99	74.60	3.69	23.99	74.69
5.01	24.00	74.36	4.90	24.00	74.45	4.80	24.00	74.53	4.70	23.99	74.62	4.60	23.99	74.70	4.50	23.99	74.78
5.93	24.00	74.41	5.81	24.00	74.50	5.68	24.00	74.59	5.56	23.99	74.67	5.44	23.99	74.75	5.32	23.99	74.83
6.87	24.00	74.44	6.72	24.00	74.53	6.57	23.99	74.62	6.43	23.99	74.71	6.29	23.99	74.79	6.14	23.99	74.87
7.81	24.00	74.47	7.64	24.00	74.56	7.47	23.99	74.64	7.30	23.99	74.73	7.14	23.99	74.81	6.98	23.99	74.89
8.75	24.00	74.48	8.56	24.00	74.57	8.37	23.99	74.66	8.18	23.99	74.74	8.00	23.99	74.82	7.82	23.99	74.90
9.70	24.00	74.49	9.49	24.00	74.58	9.28	23.99	74.67	9.07	23.99	74.75	8.86	23.99	74.83	8.66	23.99	74.91
14.46	24.00	74.52	14.14	23.99	74.61	13.82	23.99	74.69	13.51	23.99	74.78	13.20	23.99	74.86	12.89	23.99	74.94

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(h) $\epsilon_p = 60°$; $\Gamma = 30°$; $\epsilon_r = 90°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
30	26.57	75.52	3.0	64.35	53.28	2.40	26.26	68.13	6.98	.3805	1.24	71.11	45.38	2.14	25.88	70.40	5.15	.3494	1.67
			4.0	69.10	44.77	2.82	25.86	70.54	9.68	.3453	1.64	72.94	39.42	2.54	25.75	71.67	7.36	.2959	2.16
			5.0	70.35	41.59	3.32	25.79	71.24	13.53	.3189	1.87	73.53	36.67	2.99	25.71	72.18	10.24	.2601	2.50
			6.0	70.91	39.91	3.85	25.76	71.58	18.29	.3015	2.02	73.80	35.15	3.45	25.70	72.45	13.76	.2365	2.76
			7.0	71.21	38.90	4.40	25.74	71.77	23.92	.2897	2.13	73.95	34.21	3.94	25.69	72.60	17.91	.2205	2.95
			8.0	71.40	38.24	4.95	25.73	71.90	30.42	.2815	2.20	74.04	33.60	4.43	25.68	72.71	22.70	.2092	3.09
			10.0	71.61	37.46	6.08	25.72	72.04	46.02	.2712	2.29	74.15	32.86	5.43	25.68	72.83	34.18	.1950	3.28
			12.0	71.72	37.03	7.23	25.72	72.12	65.10	.2653	2.35	74.20	32.45	6.44	25.68	72.89	48.20	.1868	3.40
			14.0	71.79	36.78	8.38	25.71	72.16	87.64	.2616	2.39	74.23	32.20	7.46	25.68	72.93	64.77	.1816	3.48
			16.0	71.83	36.61	9.54	25.71	72.19	113.6	.2592	2.41	74.25	32.04	8.49	25.68	72.96	83.89	.1782	3.53
			18.0	71.86	36.50	10.71	25.71	72.21	143.1	.2575	2.43	74.26	31.93	9.52	25.67	72.97	105.6	.1759	3.57
			20.0	71.88	36.41	11.87	25.71	72.23	176.1	.2563	2.44	74.27	31.85	10.55	25.67	72.99	129.8	.1741	3.59
			30.0	71.92	36.22	17.73	25.71	72.26	392.8	.2533	2.47	74.30	31.66	15.75	25.67	73.02	289.1	.1700	3.66
32	28.42	74.64	3.0	-	-	-	-	-	-	-	-	69.36	48.03	2.23	27.65	68.20	5.64	.3342	1.56
			4.0	66.77	48.22	2.98	27.66	68.14	10.88	.3351	1.49	71.65	41.65	2.66	27.45	69.89	8.08	.2846	2.03
			5.0	68.48	44.62	3.51	27.52	69.16	15.18	.3117	1.71	72.36	38.84	3.14	27.39	70.53	11.30	.2514	2.36
			6.0	69.21	42.80	4.08	27.47	69.62	20.54	.2960	1.85	72.68	37.30	3.64	27.37	70.85	15.25	.2297	2.59
			7.0	69.60	41.73	4.66	27.45	69.88	26.91	.2854	1.95	72.86	36.36	4.15	27.36	71.04	19.92	.2151	2.76
			8.0	69.84	41.04	5.25	27.43	70.04	34.27	.2781	2.01	72.96	35.74	4.67	27.36	71.16	25.31	.2048	2.88
			10.0	70.10	40.23	6.46	27.42	70.22	51.94	.2689	2.09	73.08	35.01	5.74	27.35	71.30	38.23	.1920	3.05
			12.0	70.23	39.80	7.68	27.41	70.32	73.55	.2636	2.14	73.14	34.60	6.81	27.34	71.38	54.01	.1846	3.15
			14.0	70.31	39.53	8.91	27.40	70.37	99.08	.2604	2.17	73.18	34.36	7.90	27.34	71.42	72.67	.1800	3.22
			16.0	70.37	39.36	10.15	27.40	70.41	128.6	.2582	2.19	73.20	34.20	8.99	27.34	71.45	94.19	.1770	3.26
			18.0	70.40	39.24	11.39	27.40	70.44	162.0	.2567	2.21	73.22	34.09	10.09	27.34	71.47	118.6	.1749	3.30
			20.0	70.42	39.16	12.63	27.40	70.46	199.3	.2556	2.22	73.23	34.01	11.19	27.34	71.49	145.8	.1733	3.32
			30.0	70.48	38.96	18.86	27.40	70.50	444.9	.2530	2.24	73.26	33.82	16.70	27.34	71.52	325.2	.1697	3.38
34	30.29	73.76	3.0	-	-	-	-	-	-	-	-	74.24	51.10	2.33	29.49	65.55	6.19	.3196	1.44
			4.0	63.39	52.76	3.18	29.63	64.86	12.44	.3248	1.31	70.29	44.00	2.78	29.15	67.93	8.84	.2746	1.91
			5.0	66.23	48.07	3.72	29.31	66.66	17.06	.3051	1.55	71.15	41.07	3.29	29.07	68.73	12.42	.2439	2.21
			6.0	67.25	45.99	4.32	29.22	67.34	23.05	.2912	1.68	71.53	39.50	3.82	29.04	69.12	16.83	.2259	2.43
			7.0	67.77	44.81	4.93	29.18	67.70	30.20	.2817	1.77	71.74	38.55	4.36	29.03	69.35	22.03	.2105	2.58
			8.0	68.08	44.06	5.56	29.15	67.91	38.47	.2751	1.83	71.86	37.93	4.92	29.02	69.50	28.04	.2011	2.69
			10.0	68.42	43.20	6.85	29.13	68.16	58.36	.2669	1.90	72.00	37.19	6.04	29.01	69.67	42.46	.1895	2.84
			12.0	68.60	42.73	8.14	29.11	68.29	82.69	.2622	1.95	72.08	36.79	7.19	29.01	69.76	60.09	.1828	2.93
			14.0	68.70	42.45	9.45	29.11	68.36	111.5	.2593	1.97	72.12	36.55	8.34	29.00	69.82	80.91	.1787	2.98
			16.0	68.77	42.27	10.76	29.10	68.41	144.6	.2574	1.99	72.15	36.39	9.49	29.00	69.85	104.9	.1759	3.02
			18.0	68.81	42.15	12.08	29.10	68.45	182.3	.2561	2.01	72.16	36.28	10.65	29.00	69.88	132.2	.1740	3.05
			20.0	68.84	42.06	13.40	29.10	68.47	224.3	.2551	2.01	72.18	36.20	11.81	29.00	69.89	162.6	.1726	3.07
			30.0	68.91	41.85	20.02	29.09	68.53	500.9	.2528	2.04	72.21	36.02	17.64	29.00	69.94	362.9	.1693	3.12
36	32.18	72.91	3.0	-	-	-	-	-	-	-	-	74.14	55.19	2.46	31.57	61.86	6.91	.3040	1.29
			4.0	-	-	-	-	-	-	-	-	68.81	46.52	2.90	30.87	65.71	9.66	.2656	1.78
			5.0	62.96	52.60	3.97	31.28	63.21	19.49	.2984	1.35	69.88	43.41	3.44	30.76	66.75	13.61	.2373	2.07
			6.0	64.74	49.77	4.58	31.05	64.47	26.00	.2866	1.50	70.34	41.77	4.00	30.71	67.25	18.47	.2188	2.27
			7.0	65.54	48.33	5.23	30.97	65.04	33.95	.2783	1.59	70.59	40.80	4.57	30.69	67.53	24.24	.2065	2.41
			8.0	65.99	47.46	5.89	30.92	65.38	43.21	.2725	1.64	70.74	40.17	5.16	30.68	67.71	30.90	.1980	2.51
			10.0	66.47	46.47	7.25	30.87	65.73	65.50	.2652	1.72	70.91	39.42	6.35	30.67	67.91	46.88	.1873	2.64
			12.0	66.71	45.95	8.62	30.85	65.92	92.79	.2610	1.76	70.99	39.01	7.55	30.66	68.02	66.41	.1813	2.72
			14.0	66.85	45.64	10.01	30.84	66.02	125.1	.2584	1.78	71.04	38.77	8.77	30.66	68.09	89.50	.1775	2.77
			16.0	66.93	45.44	11.40	30.83	66.09	162.3	.2567	1.80	71.07	38.61	9.98	30.65	68.13	116.1	.1750	2.80
			18.0	66.99	45.30	12.79	30.82	66.14	204.5	.2555	1.81	71.09	38.50	11.21	30.65	68.16	146.3	.1733	2.82
			20.0	67.04	45.20	14.19	30.82	66.17	251.7	.2547	1.82	71.11	38.42	12.43	30.65	68.18	180.1	.1721	2.84
			30.0	67.13	44.98	21.20	30.81	66.25	562.2	.2526	1.84	71.15	38.24	18.57	30.65	68.23	402.0	.1691	2.88
38	34.08	72.07	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	59.79	56.03	4.98	33.38	59.44	30.72	.2812	1.24	67.10	49.29	3.03	32.64	63.11	10.56	.2573	1.65
			7.0	62.16	53.03	5.59	32.97	61.26	38.88	.2749	1.37	68.51	45.87	3.59	32.46	64.53	14.86	.2314	1.93
			8.0	63.06	51.72	6.28	32.84	61.96	49.08	.2699	1.44	69.09	44.14	4.18	32.39	65.17	20.21	.2144	2.12
			10.0	63.89	50.39	7.70	32.72	62.61	73.99	.2636	1.52	69.39	43.12	4.79	32.36	65.52	26.55	.2031	2.24
			12.0	64.28	49.72	9.16	32.67	62.92	104.6	.2599	1.56	69.57	42.47	5.40	32.34	65.74	33.87	.1952	2.33
			14.0	64.50	49.34	10.62	32.65	63.09	140.8	.2576	1.58	69.77	41.70	6.65	32.32	66.00	51.47	.1855	2.45
			16.0	64.64	49.10	12.09	32.63	63.20	182.7	.2561	1.60	69.87	41.29	7.92	32.31	66.13	72.99	.1800	2.52
			18.0	64.73	48.93	13.57	32.62	63.28	230.1	.2550	1.61	69.93	41.04	9.19	32.30	66.21	98.41	.1765	2.56
			20.0	64.79	48.81	15.05	32.61	63.33	283.1	.2542	1.62	69.97	40.88	10.47	32.30	66.26	127.8	.1743	2.59
			30.0	64.94	48.54	22.48	32.60	63.45	632.1	.2524	1.64	70.00	40.77	11.75	32.30	66.30	161.0	.1727	2.61
												70.02	40.69	13.04	32.30	66.32	198.2	.1716	2.63
												70.06	40.50	19.48	32.29	66.38	442.7	.1689	2.67
40	36.01	71.25	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	64.92	52.58	3.18	34.54	59.81	11.61	.2492	1.50
			5.0	-	-	-	-	-	-	-	-	65.97	48.54	3.75	34.19	61.95	16.21	.2260	1.79
			6.0	-	-	-	-	-	-	-	-	67.73	46.65	4.36	34.08	62.81	22.04	.2104	1.98
			7.0	-	-	-	-	-	-	-	-	68.11	45.56	5.00	34.03	63.27	28.97	.2000	2.08
			8.0	-	-	-	-	-	-	-	-	68.34	44.87	5.64	34.00	63.55	36.99	.1928	2.16
			10.0	-	-	-	-	-	-	-	-	68.59	44.07	6.95	33.97	63.87	56.26	.1839	2.27
			12.0	59.41	55.98	9.95	35.03	57.56	123.5	.2585	1.27	68.71	43.63	8.28	33.96	64.04	79.83	.1788	2.33
			14.0	60.30	54.93	11.46	34.85	58.31	166.0	.2566	1.32	68.78	43.38	9.61	33.95	64.14	107.7	.1757	2.37
			16.0	60.72	54.40	13.01	34.77	58.67	211.5	.2554	1.35	68.83	43.21	10.95	33.95	64.20	139.8	.1736	2.40
			18.0	60.98	54.08	14.58	34.72	58.88	265.5	.2545	1.36	68.86	43.09	12.30	33.94	64.25	176.3	.1722	2.42
			20.0	61.14	53.86	16.15	34.69	59.02	326.1	.2538	1.37	68.88	43.01	13.64	33.94	64.28	217.0	.1711	2.43
			30.0	61.50	53.37	24.08	34.63	59.33	724.9	.2522	1.40	68.94	42.82	20.39	33.93	64.35	484.9	.1687	2.46
42	37.95	70.45	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	63.09	58.56	3.41	37.27	53.30	13.42	.2382	1.25
			5.0	-	-	-	-	-	-	-	-	65.09	51.58	3.92	36.01	58.76	17.74	.2210	1.63
			6.0	-	-	-	-	-	-	-	-	65.18	49.37	4.55	35.81	60.04	24.02	.2069	1.80
			7.0	-	-	-	-	-	-	-	-	65.70	46.16	5.21	35.73	60.67	31.56	.1973	1.92
			8.0	-	-	-	-	-	-	-	-	67.00	47.40	5.89	35.69	61.05	40.29	.1907	1.99
			10.0	-	-	-	-	-	-	-	-	67.31	46.54	7.26	35.64	61.47	61.30	.1825	2.09
			12.0	-	-	-	-	-	-	-	-	67.47	46.08	8.64	35.62	61.69	87.00	.1778	2.15
			14.0	-	-	-	-	-	-	-	-	67.56	45.80	10.04	35.61	61.81	117.4	.1749	2.19
			16.0	-	-	-	-	-	-	-	-	67.62	45.63	11.44	35.60	61.89	152.4	.1730	2.21
			18.0	-	-	-	-	-	-	-	-	67.66	45.51	12.84	35.59	61.95	192.2	.1717	2.23
			20.0	-	-	-	-	-	-	-	-	67.69	45.42	14.25	35.59	61.99	236.6	.1708	2.24
			30.0	-	-	-	-	-	-	-	-	67.75	45.22	21.29	35.58	62.08	528.8	.1685	2.27

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(h) $\epsilon_p = 60°$; $\Gamma = 30°$, $\epsilon_r = 90°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
2.10	25.85	70.63	2.06	25.83	70.85	2.03	25.81	71.04	1.99	25.79	71.22	1.96	25.77	71.39	1.93	25.76	71.55
2.49	25.74	71.83	2.45	25.73	71.98	2.41	25.72	72.12	2.36	25.71	72.26	2.32	25.70	72.39	2.28	25.69	72.51
2.93	25.70	72.32	2.88	25.70	72.45	2.82	25.69	72.58	2.77	25.68	72.70	2.72	25.68	72.82	2.66	25.68	72.93
3.39	25.69	72.58	3.32	25.68	72.70	3.26	25.68	72.83	3.19	25.68	72.94	3.13	25.67	73.05	3.07	25.67	73.16
3.86	25.68	72.73	3.78	25.68	72.86	3.70	25.67	72.97	3.63	25.67	73.09	3.55	25.67	73.20	3.48	25.67	73.30
4.34	25.68	72.83	4.25	25.68	72.95	4.16	25.67	73.07	4.07	25.67	73.18	3.99	25.67	73.29	3.90	25.66	73.39
5.31	25.68	72.95	5.20	25.67	73.07	5.09	25.67	73.18	4.98	25.67	73.29	4.87	25.66	73.40	4.76	25.66	73.50
6.30	25.67	73.01	6.17	25.67	73.13	6.03	25.67	73.24	5.90	25.66	73.35	5.77	25.66	73.46	5.64	25.66	73.56
7.30	25.67	73.05	7.14	25.67	73.17	6.98	25.67	73.28	6.83	25.66	73.39	6.68	25.66	73.50	6.52	25.66	73.60
8.30	25.67	73.08	8.12	25.67	73.19	7.94	25.67	73.31	7.76	25.66	73.42	7.59	25.66	73.52	7.41	25.66	73.62
9.31	25.67	73.09	9.11	25.67	73.21	8.90	25.66	73.32	8.70	25.66	73.43	8.51	25.66	73.54	8.31	25.66	73.64
10.32	25.67	73.11	10.09	25.67	73.22	9.87	25.66	73.34	9.65	25.66	73.44	9.43	25.66	73.55	9.21	25.66	73.65
15.40	25.67	73.14	15.05	25.67	73.25	14.72	25.66	73.36	14.38	25.66	73.47	14.05	25.66	73.58	13.72	25.66	73.68
2.19	27.60	68.56	2.15	27.56	68.88	2.11	27.52	69.16	2.07	27.49	69.42	2.03	27.47	69.65	2.00	27.45	69.86
2.61	27.43	70.12	2.56	27.41	70.32	2.51	27.39	70.51	2.46	27.38	70.69	2.42	27.37	70.86	2.38	27.36	71.02
3.07	27.38	70.72	3.01	27.37	70.89	2.95	27.36	71.06	2.90	27.35	71.22	2.84	27.35	71.37	2.79	27.34	71.52
3.56	27.36	71.03	3.49	27.35	71.19	3.42	27.35	71.35	3.35	27.34	71.50	3.28	27.33	71.65	3.21	27.33	71.79
4.06	27.35	71.21	3.98	27.35	71.37	3.90	27.34	71.52	3.82	27.33	71.67	3.74	27.33	71.81	3.66	27.33	71.95
4.57	27.35	71.33	4.48	27.34	71.48	4.38	27.34	71.64	4.29	27.33	71.78	4.20	27.33	71.92	4.11	27.32	72.05
5.61	27.34	71.46	5.49	27.34	71.62	5.37	27.33	71.77	5.25	27.33	71.91	5.14	27.32	72.05	5.02	27.32	72.18
6.67	27.34	71.54	6.52	27.33	71.69	6.38	27.33	71.84	6.23	27.33	71.98	6.09	27.32	72.12	5.96	27.32	72.25
7.73	27.34	71.58	7.56	27.33	71.74	7.39	27.33	71.88	7.22	27.32	72.02	7.06	27.32	72.16	6.90	27.32	72.29
8.79	27.34	71.61	8.60	27.33	71.77	8.41	27.33	71.91	8.22	27.32	72.05	8.03	27.32	72.18	7.84	27.32	72.31
9.87	27.34	71.63	9.64	27.33	71.79	9.43	27.33	71.93	9.21	27.32	72.07	9.00	27.32	72.20	8.79	27.32	72.33
10.94	27.33	71.65	10.69	27.33	71.80	10.45	27.33	71.94	10.21	27.32	72.08	9.98	27.32	72.22	9.75	27.32	72.35
16.33	27.33	71.68	15.96	27.33	71.83	15.59	27.33	71.98	15.24	27.32	72.12	14.88	27.32	72.25	14.53	27.32	72.38
2.28	29.39	66.16	2.23	29.31	66.66	2.19	29.25	67.08	2.15	29.21	67.44	2.11	29.17	67.77	2.07	29.14	68.06
2.72	29.12	68.25	2.67	29.09	68.53	2.62	29.07	68.79	2.57	29.05	69.03	2.52	29.04	69.25	2.47	29.02	69.46
3.22	29.05	68.99	3.15	29.04	69.23	3.09	29.02	69.45	3.03	29.01	69.66	2.96	29.00	69.86	2.91	28.99	70.04
3.74	29.03	69.36	3.66	29.01	69.59	3.58	29.00	69.79	3.51	28.99	69.99	3.43	28.99	70.18	3.36	28.98	70.35
4.27	29.01	69.58	4.18	29.00	69.80	4.09	28.99	70.00	4.00	28.99	70.19	3.92	28.98	70.37	3.83	28.98	70.54
4.81	29.01	69.72	4.71	29.00	69.93	4.60	28.99	70.13	4.50	28.98	70.31	4.41	28.98	70.49	4.31	28.97	70.66
5.91	29.00	69.89	5.78	28.99	70.09	5.65	28.98	70.28	5.53	28.98	70.46	5.40	28.97	70.64	5.28	28.97	70.80
7.03	29.00	69.97	6.87	28.99	70.17	6.72	28.98	70.36	6.56	28.98	70.54	6.41	28.97	70.71	6.27	28.97	70.88
8.15	28.99	70.03	7.97	28.99	70.23	7.79	28.98	70.41	7.61	28.97	70.59	7.43	28.97	70.76	7.26	28.97	70.93
9.28	28.99	70.06	9.07	28.98	70.26	8.86	28.98	70.45	8.66	28.97	70.62	8.46	28.97	70.79	8.26	28.97	70.96
10.41	28.99	70.08	10.17	28.98	70.28	9.96	28.98	70.47	9.71	28.97	70.64	9.49	28.97	70.81	9.27	28.97	70.98
11.54	28.99	70.10	11.28	28.98	70.30	11.02	28.98	70.48	10.77	28.97	70.66	10.52	28.97	70.83	10.27	28.97	70.99
17.24	28.99	70.14	16.84	28.98	70.34	16.46	28.98	70.52	16.08	28.97	70.70	15.70	28.97	70.87	15.33	28.97	71.03
2.38	31.29	63.18	2.32	31.12	64.05	2.27	31.02	64.70	2.22	30.94	65.24	2.18	30.88	65.70	2.14	30.83	66.10
2.84	30.82	66.17	2.78	30.78	66.57	2.72	30.74	66.92	2.67	30.71	67.25	2.61	30.69	67.54	2.56	30.67	67.81
3.36	30.73	67.11	3.29	30.70	67.43	3.22	30.68	67.73	3.15	30.66	68.00	3.09	30.65	68.26	3.02	30.63	68.49
3.91	30.69	67.57	3.82	30.67	67.87	3.74	30.65	68.14	3.66	30.64	68.39	3.58	30.63	68.63	3.51	30.62	68.85
4.47	30.67	67.84	4.37	30.65	68.12	4.28	30.64	68.38	4.18	30.63	68.62	4.09	30.62	68.85	4.00	30.61	69.07
5.04	30.66	68.00	4.93	30.65	68.28	4.82	30.63	68.53	4.72	30.62	68.77	4.61	30.62	68.99	4.51	30.61	69.21
6.21	30.65	68.20	6.07	30.64	68.46	5.93	30.63	68.71	5.79	30.62	68.94	5.66	30.61	69.16	5.53	30.61	69.37
7.38	30.64	68.30	7.21	30.63	68.56	7.05	30.62	68.80	6.89	30.61	69.03	6.73	30.61	69.25	6.57	30.60	69.46
8.56	30.64	68.36	8.37	30.63	68.62	8.18	30.62	68.86	7.99	30.61	69.09	7.80	30.61	69.30	7.62	30.60	69.51
9.75	30.64	68.40	9.53	30.63	68.66	9.31	30.62	68.90	9.09	30.61	69.13	8.88	30.61	69.34	8.67	30.60	69.54
10.95	30.64	68.43	10.69	30.63	68.69	10.45	30.62	68.92	10.20	30.61	69.15	9.97	30.61	69.36	9.73	30.60	69.57
12.14	30.64	68.45	11.86	30.63	68.71	11.59	30.62	68.94	11.32	30.61	69.17	11.05	30.61	69.38	10.79	30.60	69.58
18.14	30.63	68.50	17.71	30.62	68.75	17.30	30.62	68.99	16.90	30.61	69.21	16.50	30.61	69.42	16.11	30.60	69.62
2.53	33.66	58.35	2.43	33.09	60.68	2.36	32.85	61.87	2.30	32.71	62.72	2.25	32.60	63.40	2.21	32.53	63.96
2.96	32.54	63.81	2.89	32.47	64.39	2.83	32.42	64.88	2.76	32.38	65.32	2.71	32.34	65.70	2.65	32.31	66.06
3.51	32.40	65.04	3.43	32.36	65.48	3.35	32.33	65.87	3.28	32.30	66.23	3.21	32.28	66.56	3.14	32.27	66.86
4.08	32.35	65.61	3.99	32.32	66.01	3.90	32.29	66.37	3.81	32.27	66.69	3.73	32.26	67.00	3.65	32.25	67.28
4.67	32.32	65.94	4.57	32.30	66.31	4.46	32.28	66.65	4.36	32.26	66.96	4.27	32.25	67.25	4.17	32.24	67.53
5.28	32.31	66.14	5.15	32.29	66.50	5.04	32.27	66.83	4.92	32.25	67.13	4.81	32.24	67.42	4.70	32.23	67.69
6.50	32.29	66.37	6.35	32.27	66.72	6.20	32.26	67.04	6.06	32.24	67.33	5.92	32.24	67.61	5.78	32.23	67.87
7.73	32.29	66.50	7.55	32.27	66.84	7.38	32.25	67.15	7.20	32.24	67.44	7.04	32.23	67.71	6.87	32.23	67.97
8.97	32.28	66.57	8.76	32.26	66.91	8.56	32.25	67.22	8.36	32.24	67.50	8.16	32.23	67.78	7.97	32.23	68.03
10.22	32.28	66.62	9.98	32.26	66.95	9.75	32.25	67.26	9.52	32.24	67.55	9.30	32.23	67.82	9.08	32.23	68.07
11.47	32.28	66.66	11.20	32.26	66.98	10.94	32.25	67.29	10.68	32.24	67.58	10.43	32.23	67.84	10.18	32.22	68.10
12.73	32.27	66.68	12.43	32.26	67.01	12.14	32.25	67.31	11.85	32.24	67.60	11.57	32.23	67.86	11.29	32.22	68.12
19.02	32.27	66.73	18.57	32.26	67.06	18.13	32.24	67.36	17.70	32.23	67.64	17.28	32.23	67.91	16.87	32.22	68.16
-	-	-	-	-	-	2.47	34.90	58.07	2.39	34.56	59.68	2.33	34.37	60.75	2.28	34.24	61.57
3.08	34.33	61.01	3.00	34.20	61.89	2.93	34.10	62.60	2.86	34.04	63.20	2.80	33.99	63.72	2.74	33.95	64.18
3.65	34.09	62.70	3.56	34.03	63.32	3.48	33.97	63.85	3.40	33.94	64.33	3.33	33.91	64.75	3.25	33.88	65.14
4.25	34.01	63.44	4.15	33.96	63.97	4.06	33.93	64.45	3.96	33.90	64.88	3.88	33.88	65.27	3.79	33.86	65.62
4.87	33.98	63.84	4.76	33.93	64.34	4.65	33.90	64.79	4.54	33.88	65.19	4.44	33.86	65.56	4.34	33.85	65.91
5.51	33.95	64.10	5.37	33.92	64.58	5.25	33.89	65.00	5.13	33.87	65.40	5.01	33.85	65.75	4.89	33.84	66.09
6.78	33.93	64.38	6.62	33.90	64.84	6.46	33.88	65.25	6.31	33.86	65.63	6.17	33.85	65.98	6.02	33.84	66.30
8.08	33.92	64.54	7.88	33.89	64.98	7.70	33.87	65.38	7.51	33.85	65.75	7.34	33.84	66.09	7.16	33.83	66.41
9.38	33.91	64.63	9.15	33.89	65.06	8.93	33.87	65.46	8.72	33.85	65.83	8.52	33.84	66.17	8.31	33.83	66.48
10.68	33.91	64.68	10.43	33.88	65.12	10.18	33.86	65.51	9.94	33.85	65.87	9.70	33.84	66.21	9.47	33.83	66.53
11.99	33.91	64.72	11.70	33.88	65.15	11.42	33.86	65.55	11.15	33.85	65.91	10.89	33.84	66.24	10.63	33.83	66.56
13.31	33.91	64.75	12.98	33.88	65.18	12.67	33.86	65.57	12.37	33.85	65.93	12.07	33.84	66.27	11.79	33.83	66.58
19.89	33.90	64.82	19.40	33.88	65.24	18.94	33.86	65.63	18.48	33.85	65.99	18.04	33.84	66.32	17.61	33.83	66.63
-	-	-	-	-	-	-	-	-	2.49	36.69	55.46	2.41	36.24	57.53	2.35	36.00	58.82
3.22	36.27	57.35	3.12	35.99	58.91	3.04	35.82	60.00	2.96	35.71	60.85	2.90	35.63	61.55	2.83	35.57	62.16
3.80	35.82	59.96	3.70	35.71	60.88	3.61	35.62	61.62	3.52	35.57	62.25	3.44	35.52	62.81	3.37	35.49	63.30
4.43	35.70	60.96	4.32	35.61	61.72	4.21	35.56	62.36	4.11	35.51	62.92	4.02	35.48	63.42	3.93	35.46	63.87
5.08	35.64	61.50	4.95	35.57	62.18	4.83	35.52	62.77	4.71	35.49	63.30	4.60	35.46	63.77	4.50	35.44	64.20
5.73	35.60	61.82	5.59	35.55	62.47	5.46	35.51	63.03	5.33	35.48	63.53	5.20	35.45	63.99	5.08	35.44	64.41
7.07	35.57	62.18	6.89	35.52	62.79	6.73	35.49	63.33	6.56	35.46	63.81	6.41	35.44	64.25	6.26	35.43	64.65
8.42	35.56	62.37	8.21	35.51	62.96	8.01	35.48	63.48	7.82	35.45	63.95	7.63	35.44	64.38	7.45	35.43	64.78
9.78	35.55	62.48	9.53	35.50	63.06	9.30	35.47	63.57	9.08	35.45	64.04	8.86	35.43	64.46	8.65	35.42	64.86
11.14	35.54	62.55	10.86	35.50	63.13	10.60	35.47	63.63	10.34	35.45	64.10	10.09	35.43	64.52	9.85	35.42	64.91
12.51	35.54	62.60	12.20	35.50	63.17	11.90	35.47	63.68	11.61	35.45	64.13	11.33	35.43	64.55	11.06	35.42	64.94
13.88	35.53	62.64	13.53	35.49	63.20	13.20	35.47	63.70	12.88	35.45	64.16	12.57	35.43	64.58	12.26	35.42	64.97
20.74	35.53	62.72	20.22	35.49	63.28	19.73	35.46	63.77	19.25	35.44	64.23	18.78	35.43	64.64	18.33	35.42	65.02

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(i) $\epsilon_p = 45°$; $\Gamma = 0°$; $\epsilon_r = 0°$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$							$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	2.83	45.03	3.0	45.00	21.14	1.08	2.14	44.24	1.21	.8906	2.85	45.01	20.96	1.07	2.14	44.25	1.18	.8900	2.89
			4.0	45.02	16.02	1.10	2.07	44.48	1.27	.8653	3.77	45.03	15.86	1.09	2.07	44.48	1.23	.8642	3.85
			5.0	45.02	13.04	1.13	2.04	44.60	1.34	.8393	4.68	45.03	12.88	1.11	2.04	44.60	1.28	.8375	4.79
			6.0	45.02	11.09	1.15	2.03	44.67	1.41	.8138	5.56	45.03	10.92	1.14	2.03	44.68	1.34	.8112	5.72
			7.0	45.02	9.70	1.18	2.02	44.72	1.49	.7891	6.42	45.03	9.54	1.16	2.02	44.73	1.40	.7857	6.63
			8.0	45.02	8.68	1.21	2.01	44.76	1.57	.7654	7.26	45.03	8.51	1.18	2.01	44.77	1.47	.7611	7.53
			10.0	45.03	7.25	1.26	2.01	44.81	1.74	.7211	8.89	45.03	7.08	1.23	2.01	44.82	1.61	.7147	9.30
			12.0	45.03	6.31	1.32	2.01	44.85	1.93	.6809	10.44	45.03	6.14	1.28	2.01	44.85	1.76	.6721	11.01
			14.0	45.03	5.66	1.38	2.00	44.87	2.13	.6444	11.91	45.03	5.48	1.34	2.00	44.88	1.92	.6331	12.67
			16.0	45.03	5.17	1.44	2.00	44.89	2.35	.6114	13.32	45.03	4.99	1.39	2.00	44.90	2.09	.5974	14.28
			18.0	45.03	4.80	1.51	2.00	44.90	2.58	.5816	14.65	45.03	4.61	1.45	2.00	44.91	2.27	.5649	15.84
			20.0	45.03	4.50	1.57	2.00	44.91	2.83	.5547	15.92	45.03	4.31	1.50	2.00	44.92	2.47	.5351	17.35
			30.0	45.03	3.67	1.92	2.00	44.94	4.36	.4542	21.29	45.03	3.46	1.81	2.00	44.95	3.65	.4211	24.15
4	5.65	45.14	3.0	44.99	22.96	1.17	4.28	43.47	1.46	.7979	2.70	45.06	22.56	1.15	4.27	43.51	1.38	.7957	2.79
			4.0	45.06	17.72	1.22	4.13	43.96	1.60	.7564	3.56	45.10	17.35	1.19	4.12	43.99	1.49	.7523	3.70
			5.0	45.08	14.72	1.27	4.08	44.21	1.77	.7152	4.38	45.11	14.35	1.24	4.07	44.24	1.63	.7090	4.58
			6.0	45.09	12.77	1.33	4.05	44.36	1.95	.6767	5.15	45.12	12.41	1.29	4.05	44.39	1.77	.6681	5.44
			7.0	45.10	11.41	1.39	4.04	44.47	2.15	.6414	5.89	45.12	11.04	1.34	4.03	44.49	1.93	.6302	6.28
			8.0	45.10	10.41	1.45	4.03	44.54	2.36	.6091	6.60	45.12	10.04	1.39	4.02	44.57	2.10	.5953	7.08
			10.0	45.10	9.06	1.57	4.02	44.64	2.85	.5533	7.90	45.13	8.66	1.51	4.01	44.67	2.48	.5339	8.62
			12.0	45.10	8.19	1.71	4.01	44.70	3.40	.5075	9.06	45.13	7.78	1.62	4.01	44.73	2.91	.4824	10.05
			14.0	45.10	7.59	1.85	4.01	44.75	4.03	.4699	10.11	45.13	7.17	1.75	4.01	44.78	3.40	.4395	11.39
			16.0	45.11	7.17	2.00	4.01	44.78	4.73	.4390	11.03	45.13	6.73	1.88	4.00	44.81	3.94	.4036	12.62
			18.0	45.11	6.85	2.15	4.01	44.80	5.51	.4135	11.85	45.13	6.40	2.01	4.00	44.83	4.54	.3734	13.76
			20.0	45.11	6.61	2.30	4.00	44.82	6.37	.3924	12.58	45.13	6.15	2.14	4.00	44.85	5.19	.3481	14.80
			30.0	45.11	5.97	3.12	4.00	44.86	11.91	.3280	15.11	45.13	5.47	2.86	4.00	44.90	9.39	.2684	18.82
6	8.45	45.31	3.0	44.97	24.93	1.26	6.44	42.65	1.75	.7194	2.56	45.12	24.27	1.23	6.40	42.76	1.61	.7149	2.68
			4.0	45.13	19.56	1.34	6.20	43.44	1.99	.6685	3.36	45.22	18.96	1.30	6.18	43.52	1.80	.6602	3.56
			5.0	45.18	16.56	1.42	6.11	43.82	2.29	.6199	4.09	45.25	15.96	1.37	6.10	43.89	2.04	.6077	4.38
			6.0	45.20	14.64	1.52	6.07	44.05	2.63	.5766	4.77	45.27	14.04	1.46	6.06	44.12	2.30	.5602	5.17
			7.0	45.21	13.32	1.61	6.05	44.20	3.00	.5388	5.40	45.27	12.71	1.54	6.04	44.27	2.60	.5181	5.92
			8.0	45.22	12.37	1.71	6.04	44.31	3.42	.5059	5.97	45.28	11.74	1.63	6.03	44.38	2.93	.4811	6.64
			10.0	45.23	11.10	1.93	6.02	44.45	4.39	.4529	6.99	45.28	10.45	1.81	6.02	44.52	3.67	.4201	7.96
			12.0	45.23	10.32	2.15	6.02	44.54	5.53	.4131	7.83	45.28	9.64	2.01	6.01	44.61	4.54	.3781	9.11
			14.0	45.23	9.80	2.38	6.01	44.60	6.85	.3829	8.54	45.28	9.10	2.21	6.01	44.67	5.55	.3368	10.13
			16.0	45.24	9.43	2.62	6.01	44.63	8.35	.3599	9.12	45.28	8.71	2.42	6.01	44.71	6.69	.3085	11.02
			18.0	45.24	9.17	2.87	6.01	44.66	10.04	.3420	9.60	45.29	8.44	2.64	6.01	44.74	7.97	.2862	11.80
			20.0	45.24	8.97	3.12	6.01	44.68	11.92	.3279	10.01	45.29	8.23	2.86	6.00	44.76	9.39	.2684	12.48
			30.0	45.24	8.47	4.42	6.01	44.74	24.19	.2893	11.23	45.29	7.69	4.02	6.00	44.82	18.64	.2184	14.74
8	11.24	45.55	3.0	44.91	27.08	1.37	8.63	41.75	2.08	.6525	2.42	45.20	26.09	1.32	8.55	41.98	1.86	.6495	2.58
			4.0	45.22	21.56	1.47	8.27	42.88	2.45	.5976	3.16	45.39	20.67	1.41	8.23	43.04	2.16	.5846	3.41
			5.0	45.31	18.56	1.59	8.16	43.41	2.92	.5468	3.82	45.45	17.68	1.52	8.13	43.55	2.52	.5279	4.18
			6.0	45.35	16.68	1.72	8.10	43.71	3.46	.5035	4.40	45.47	15.80	1.63	8.08	43.85	2.95	.4789	4.90
			7.0	45.37	15.42	1.86	8.07	43.91	4.08	.4673	4.93	45.48	14.52	1.75	8.06	44.05	3.43	.4374	5.57
			8.0	45.38	14.51	2.00	8.06	44.05	4.78	.4373	5.39	45.49	13.60	1.88	8.04	44.19	3.96	.4022	6.19
			10.0	45.40	13.34	2.31	8.04	44.23	6.41	.3916	6.17	45.50	12.39	2.15	8.02	44.37	5.21	.3476	7.28
			12.0	45.41	12.64	2.63	8.03	44.33	8.37	.3596	6.77	45.50	11.66	2.42	8.02	44.48	6.69	.3084	8.20
			14.0	45.41	12.18	2.95	8.02	44.40	10.66	.3368	7.24	45.50	11.18	2.71	8.01	44.55	8.43	.2798	8.96
			16.0	45.41	11.87	3.29	8.02	44.45	13.29	.3201	7.61	45.50	10.85	3.01	8.01	44.59	10.41	.2586	9.59
			18.0	45.41	11.65	3.63	8.02	44.48	16.26	.3077	7.90	45.50	10.61	3.31	8.01	44.63	12.65	.2425	10.11
			20.0	45.42	11.48	3.98	8.02	44.50	19.57	.2982	8.13	45.51	10.43	3.62	8.01	44.65	15.14	.2302	10.55
			30.0	45.42	11.08	5.76	8.01	44.56	41.30	.2735	8.77	45.51	10.00	5.21	8.00	44.72	31.48	.1974	11.86
10	14.00	45.86	3.0	44.77	29.45	1.47	10.87	40.71	2.47	.5952	2.27	45.28	28.04	1.41	10.71	41.13	2.15	.5857	2.47
			4.0	45.31	23.72	1.61	10.36	42.27	2.99	.5403	2.96	45.60	22.50	1.53	10.29	42.55	2.57	.5223	3.27
			5.0	45.47	20.71	1.77	10.21	42.95	3.66	.4905	3.55	45.69	19.52	1.67	10.16	43.20	3.09	.4651	3.98
			6.0	45.55	18.88	1.94	10.14	43.33	4.46	.4497	4.05	45.73	17.68	1.82	10.10	43.57	3.71	.4176	4.63
			7.0	45.57	17.66	2.12	10.10	43.58	5.39	.4170	4.49	45.75	16.45	1.98	10.07	43.81	4.42	.3787	5.22
			8.0	45.59	16.81	2.31	10.08	43.74	6.45	.3908	4.86	45.76	15.58	2.15	10.05	43.98	5.22	.3472	5.75
			10.0	45.61	15.73	2.71	10.05	43.95	8.94	.3529	5.45	45.77	14.46	2.50	10.03	44.19	7.11	.3003	6.65
			12.0	45.62	15.09	3.12	10.04	44.07	11.96	.3277	5.88	45.78	13.79	2.86	10.02	44.32	9.38	.2685	7.36
			14.0	45.63	14.69	3.55	10.04	44.15	15.51	.3104	6.19	45.78	13.37	3.24	10.02	44.40	12.05	.2462	7.92
			16.0	45.63	14.41	3.98	10.03	44.20	19.59	.2982	6.43	45.78	13.08	3.62	10.02	44.45	15.12	.2303	8.36
			18.0	45.64	14.22	4.42	10.03	44.24	24.21	.2892	6.61	45.78	12.87	4.01	10.01	44.49	18.59	.2185	8.72
			20.0	45.64	14.08	4.87	10.03	44.26	29.37	.2826	6.75	45.78	12.72	4.40	10.01	44.51	22.46	.2096	9.00
			30.0	45.64	13.74	7.13	10.02	44.33	63.26	.2657	7.12	45.79	12.35	6.42	10.01	44.58	47.89	.1869	9.80
12	16.73	46.24	3.0	44.67	32.12	1.60	13.22	39.41	2.93	.5453	2.12	45.34	30.14	1.51	12.91	40.19	2.48	.5340	2.36
			4.0	45.39	26.05	1.76	12.48	41.55	3.61	.4938	2.77	45.85	24.44	1.65	12.36	42.02	3.03	.4709	3.12
			5.0	45.63	23.02	1.96	12.27	42.41	4.53	.4468	3.29	45.98	21.47	1.83	12.19	42.82	3.74	.4154	3.78
			6.0	45.73	21.22	2.17	12.18	42.88	5.65	.4097	3.72	46.03	19.68	2.02	12.12	43.27	4.60	.3708	4.37
			7.0	45.79	20.05	2.40	12.14	43.17	6.96	.3810	4.08	46.06	18.49	2.22	12.09	43.55	5.58	.3357	4.88
			8.0	45.82	19.25	2.64	12.11	43.37	8.45	.3587	4.37	46.08	17.67	2.43	12.06	43.74	6.71	.3080	5.33
			10.0	45.86	18.24	3.13	12.08	43.61	12.00	.3274	4.82	46.10	16.63	2.86	12.04	43.98	9.38	.2685	6.06
			12.0	45.87	17.65	3.64	12.06	43.75	16.32	.3075	5.13	46.11	16.02	3.31	12.03	44.12	12.62	.2427	6.61
			14.0	45.88	17.29	4.16	12.06	43.83	21.40	.2942	5.35	46.11	15.63	3.77	12.03	44.21	16.44	.2252	7.02
			16.0	45.89	17.04	4.69	12.05	43.89	27.26	.2850	5.51	46.12	15.37	4.24	12.02	44.27	20.82	.2130	7.34
			18.0	45.90	16.87	5.22	12.05	43.93	33.90	.2784	5.63	46.12	15.19	4.72	12.02	44.31	25.79	.2041	7.58
			20.0	45.90	16.75	5.76	12.04	43.96	41.31	.2735	5.72	46.12	15.06	5.20	12.02	44.34	31.34	.1975	7.77
			30.0	45.91	16.45	8.50	12.04	44.02	90.05	.2613	5.95	46.12	14.74	7.63	12.01	44.41	67.81	.1810	8.29
14	19.42	46.68	3.0	43.77	35.32	1.73	15.82	37.57	3.51	.4999	1.96	45.34	32.42	1.61	15.18	39.08	2.85	.4887	2.25
			4.0	45.43	28.57	1.91	14.64	40.69	4.33	.4556	2.58	46.11	26.49	1.78	14.44	41.44	3.55	.4284	2.97
			5.0	45.79	25.49	2.15	14.36	41.77	5.54	.4127	3.04	46.31	23.53	2.00	14.24	42.40	4.48	.3758	3.58
			6.0	45.95	23.71	2.41	14.25	42.34	7.03	.3796	3.41	45.39	21.77	2.23	14.15	42.92	5.61	.3350	4.10
			7.0	46.03	22.57	2.69	14.19	42.69	8.78	.3547	3.70	46.43	20.63	2.47	14.11	43.25	6.93	.3037	4.55
			8.0	46.07	21.80	2.97	14.15	42.91	10.79	.3358	3.94	46.45	19.84	2.72	14.08	43.47	8.44	.2797	4.92
			10.0	46.12	20.85	3.56	14.11	43.19	15.60	.3101	4.28	46.48	18.87	3.23	14.06	43.74	12.03	.2463	5.52
			12.0	46.15	20.31	4.16	14.10	43.34	21.45	.2941	4.51	46.49	18.31	3.77	14.04	43.89	16.41	.2253	5.94
			14.0	46.17	19.97	4.78	14.09	43.43	28.35	.2837	4.66	46.50	17.96	4.32	14.04	43.98	21.56	.2114	6.25
			16.0	46.18	19.75	5.41	14.08	43.50	36.31	.2766	4.78	46.50	17.72	4.87	14.03	44.05	27.51	.2018	6.48
			18.0	46.18	19.59	6.04	14.07	43.54	45.33	.2715	4.86	46.51	17.56	5.43	14.03	44.09	34.24	.1949	6.66
			20.0	46.19	19.48	6.67	14.07	43.57	55.41	.2678	4.92	46.51	17.44	5.99	14.03	44.12	41.75	.1899	6.79
			30.0	46.20	19.21	9.37	14.06	43.64	121.7	.2586	5.07	46.51	17.16	8.85	14.02	44.19	91.19	.1773	7.14

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES-Continued

(i) $\epsilon_p = 45°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ_1, deg	M_n	δ, deg	Δ_1, deg	M_n	δ, deg	Δ_1, deg	M_n	δ, deg	Δ_1, deg	M_n	δ, deg	Δ_1, deg	M_n	δ, deg	Δ_1, deg
1.07	2.13	44.25	1.07	2.13	44.26	1.07	2.13	44.26	1.07	2.13	44.26	1.07	2.13	44.26	1.06	2.13	44.26
1.09	2.07	44.48	1.09	2.06	44.49	1.09	2.06	44.49	1.08	2.06	44.49	1.08	2.06	44.49	1.08	2.06	44.49
1.11	2.04	44.61	1.11	2.04	44.61	1.11	2.04	44.61	1.10	2.04	44.61	1.10	2.04	44.61	1.10	2.04	44.61
1.13	2.03	44.68	1.13	2.03	44.68	1.13	2.03	44.68	1.12	2.02	44.68	1.12	2.02	44.68	1.12	2.02	44.69
1.16	2.02	44.73	1.15	2.02	44.73	1.15	2.02	44.73	1.15	2.02	44.74	1.14	2.02	44.74	1.14	2.02	44.74
1.18	2.01	44.77	1.18	2.01	44.77	1.17	2.01	44.77	1.17	2.01	44.77	1.16	2.01	44.77	1.16	2.01	44.78
1.23	2.01	44.82	1.22	2.01	44.82	1.22	2.01	44.82	1.21	2.01	44.82	1.21	2.01	44.83	1.20	2.01	44.83
1.28	2.01	44.86	1.27	2.01	44.86	1.26	2.01	44.86	1.26	2.00	44.86	1.25	2.00	44.86	1.25	2.00	44.86
1.33	2.00	44.88	1.32	2.00	44.88	1.31	2.00	44.88	1.31	2.00	44.88	1.30	2.00	44.88	1.29	2.00	44.88
1.38	2.00	44.90	1.37	2.00	44.90	1.36	2.00	44.90	1.35	2.00	44.90	1.35	2.00	44.90	1.34	2.00	44.90
1.44	2.00	44.91	1.43	2.00	44.91	1.41	2.00	44.91	1.40	2.00	44.91	1.39	2.00	44.91	1.38	2.00	44.92
1.49	2.00	44.92	1.48	2.00	44.92	1.47	2.00	44.92	1.46	2.00	44.92	1.44	2.00	44.93	1.43	2.00	44.93
1.79	2.00	44.95	1.77	2.00	44.95	1.75	2.00	44.95	1.73	2.00	44.95	1.71	2.00	44.96	1.69	2.00	44.96
1.15	4.26	43.52	1.14	4.26	43.53	1.14	4.26	43.53	1.14	4.26	43.54	1.13	4.26	43.55	1.13	4.25	43.55
1.19	4.12	44.00	1.18	4.12	44.01	1.18	4.12	44.01	1.18	4.12	44.02	1.17	4.12	44.02	1.17	4.12	44.03
1.23	4.07	44.25	1.23	4.07	44.25	1.22	4.07	44.26	1.22	4.07	44.26	1.21	4.07	44.27	1.21	4.07	44.27
1.28	4.05	44.40	1.28	4.04	44.40	1.27	4.04	44.41	1.26	4.04	44.41	1.26	4.04	44.42	1.25	4.04	44.42
1.33	4.03	44.50	1.32	4.03	44.50	1.32	4.03	44.51	1.31	4.03	44.51	1.30	4.03	44.52	1.29	4.03	44.52
1.38	4.02	44.57	1.38	4.02	44.58	1.37	4.02	44.58	1.36	4.02	44.59	1.35	4.02	44.59	1.34	4.02	44.60
1.49	4.01	44.67	1.48	4.01	44.68	1.47	4.01	44.68	1.46	4.01	44.69	1.45	4.01	44.69	1.43	4.01	44.70
1.61	4.01	44.74	1.59	4.01	44.74	1.58	4.01	44.75	1.56	4.01	44.75	1.55	4.01	44.76	1.53	4.01	44.76
1.73	4.01	44.78	1.71	4.01	44.79	1.69	4.01	44.79	1.67	4.01	44.80	1.66	4.00	44.80	1.64	4.00	44.81
1.85	4.00	44.81	1.83	4.00	44.82	1.81	4.00	44.82	1.79	4.00	44.83	1.77	4.00	44.84	1.75	4.00	44.84
1.98	4.00	44.84	1.96	4.00	44.84	1.93	4.00	44.85	1.91	4.00	44.85	1.88	4.00	44.86	1.86	4.00	44.86
2.11	4.00	44.85	2.09	4.00	44.86	2.06	4.00	44.87	2.03	4.00	44.87	2.00	4.00	44.88	1.97	4.00	44.88
2.82	4.00	44.90	2.77	4.00	44.91	2.72	4.00	44.92	2.68	4.00	44.92	2.63	4.00	44.93	2.58	4.00	44.93
1.23	6.40	42.78	1.22	6.39	42.80	1.22	6.38	42.82	1.21	6.38	42.83	1.20	6.37	42.85	1.20	6.37	42.87
1.29	6.18	43.53	1.28	6.17	43.55	1.28	6.17	43.56	1.27	6.17	43.57	1.26	6.16	43.59	1.26	6.16	43.60
1.37	6.10	43.91	1.36	6.10	43.92	1.35	6.09	43.93	1.34	6.09	43.95	1.33	6.09	43.96	1.32	6.09	43.97
1.44	6.06	44.13	1.43	6.06	44.15	1.42	6.06	44.16	1.41	6.06	44.17	1.40	6.06	44.18	1.39	6.05	44.20
1.53	6.04	44.29	1.51	6.04	44.30	1.50	6.04	44.31	1.49	6.04	44.32	1.47	6.04	44.33	1.46	6.04	44.35
1.61	6.03	44.39	1.60	6.03	44.41	1.58	6.03	44.42	1.57	6.03	44.43	1.55	6.03	44.44	1.54	6.02	44.46
1.79	6.02	44.54	1.77	6.02	44.55	1.75	6.02	44.56	1.73	6.01	44.58	1.71	6.01	44.59	1.69	6.01	44.60
1.98	6.01	44.63	1.96	6.01	44.64	1.93	6.01	44.65	1.91	6.01	44.67	1.88	6.01	44.68	1.86	6.01	44.69
2.18	6.01	44.68	2.15	6.01	44.70	2.12	6.01	44.71	2.09	6.01	44.73	2.06	6.01	44.74	2.03	6.01	44.75
2.39	6.01	44.73	2.35	6.01	44.74	2.32	6.01	44.75	2.28	6.00	44.77	2.25	6.00	44.78	2.21	6.00	44.79
2.60	6.00	44.76	2.56	6.00	44.77	2.52	6.00	44.78	2.48	6.00	44.80	2.44	6.00	44.81	2.39	6.00	44.83
2.81	6.00	44.78	2.77	6.00	44.79	2.72	6.00	44.81	2.68	6.00	44.82	2.63	6.00	44.84	2.58	6.00	44.85
3.94	6.00	44.84	3.87	6.00	44.85	3.79	6.00	44.87	3.72	6.00	44.88	3.65	6.00	44.90	3.57	6.00	44.91
1.31	8.54	42.02	1.30	8.52	42.05	1.29	8.51	42.09	1.29	8.50	42.13	1.28	8.49	42.16	1.27	8.47	42.20
1.40	8.23	43.07	1.39	8.22	43.10	1.38	8.22	43.13	1.37	8.21	43.15	1.36	8.20	43.18	1.35	8.20	43.21
1.51	8.12	43.58	1.49	8.12	43.60	1.48	8.12	43.63	1.47	8.11	43.65	1.45	8.11	43.68	1.44	8.10	43.70
1.62	8.08	43.88	1.60	8.07	43.90	1.59	8.07	43.93	1.57	8.07	43.95	1.55	8.07	43.97	1.54	8.06	44.00
1.74	8.05	44.08	1.72	8.05	44.10	1.70	8.05	44.12	1.68	8.04	44.15	1.66	8.04	44.17	1.64	8.04	44.19
1.86	8.04	44.21	1.84	8.04	44.24	1.81	8.03	44.26	1.79	8.03	44.29	1.77	8.03	44.31	1.75	8.03	44.33
2.12	8.02	44.39	2.09	8.02	44.42	2.06	8.02	44.44	2.03	8.02	44.47	2.00	8.02	44.49	1.97	8.01	44.52
2.39	8.02	44.50	2.35	8.01	44.53	2.32	8.01	44.55	2.28	8.01	44.58	2.25	8.01	44.60	2.21	8.01	44.63
2.67	8.01	44.57	2.63	8.01	44.60	2.58	8.01	44.63	2.54	8.01	44.65	2.50	8.01	44.68	2.46	8.01	44.70
2.96	8.01	44.62	2.91	8.01	44.65	2.86	8.01	44.67	2.81	8.01	44.70	2.76	8.00	44.73	2.71	8.00	44.75
3.26	8.01	44.66	3.20	8.01	44.68	3.14	8.01	44.71	3.08	8.00	44.74	3.03	8.00	44.76	2.97	8.00	44.79
3.56	8.01	44.68	3.49	8.01	44.71	3.43	8.00	44.74	3.36	8.00	44.76	3.30	8.00	44.79	3.23	8.00	44.82
5.11	8.00	44.75	5.01	8.00	44.77	4.90	8.00	44.80	4.80	8.00	44.83	4.70	8.00	44.86	4.60	8.00	44.88
1.40	10.69	41.20	1.39	10.67	41.27	1.38	10.64	41.34	1.37	10.62	41.40	1.36	10.60	41.46	1.35	10.58	41.52
1.52	10.28	42.60	1.50	10.27	42.65	1.49	10.26	42.69	1.48	10.25	42.74	1.46	10.24	42.78	1.45	10.23	42.83
1.65	10.15	43.24	1.64	10.14	43.28	1.62	10.14	43.33	1.60	10.13	43.37	1.59	10.12	43.41	1.57	10.12	43.45
1.80	10.09	43.61	1.78	10.09	43.66	1.76	10.08	43.70	1.74	10.08	43.74	1.72	10.07	43.78	1.70	10.07	43.82
1.96	10.06	43.86	1.93	10.06	43.90	1.91	10.06	43.94	1.88	10.05	43.98	1.86	10.05	44.02	1.93	10.04	44.06
2.12	10.05	44.02	2.09	10.04	44.07	2.06	10.04	44.11	2.03	10.04	44.15	2.00	10.03	44.19	1.97	10.03	44.23
2.46	10.03	44.24	2.42	10.03	44.28	2.38	10.02	44.32	2.34	10.02	44.36	2.31	10.02	44.40	2.27	10.02	44.44
2.81	10.02	44.36	2.77	10.02	44.40	2.72	10.02	44.44	2.67	10.01	44.49	2.63	10.01	44.53	2.58	10.01	44.57
3.18	10.02	44.44	3.12	10.01	44.48	3.07	10.01	44.53	3.01	10.01	44.57	2.96	10.01	44.61	2.90	10.01	44.65
3.55	10.01	44.49	3.49	10.01	44.54	3.42	10.01	44.58	3.36	10.01	44.62	3.29	10.01	44.67	3.23	10.00	44.71
3.93	10.01	44.53	3.86	10.01	44.57	3.79	10.01	44.62	3.71	10.01	44.66	3.64	10.00	44.70	3.56	10.00	44.75
4.32	10.01	44.56	4.24	10.01	44.60	4.15	10.01	44.65	4.07	10.00	44.69	3.99	10.00	44.73	3.90	10.00	44.78
6.29	10.01	44.63	6.16	10.01	44.67	6.03	10.00	44.72	5.90	10.00	44.76	5.78	10.00	44.81	5.65	10.00	44.85
1.49	12.87	40.31	1.48	12.83	40.43	1.46	12.79	40.54	1.45	12.76	40.64	1.44	12.72	40.74	1.42	12.69	40.84
1.64	12.34	42.10	1.62	12.32	42.18	1.60	12.31	42.25	1.59	12.29	42.32	1.57	12.28	42.39	1.55	12.26	42.46
1.81	12.18	42.89	1.79	12.17	42.96	1.76	12.16	43.02	1.74	12.15	43.09	1.72	12.14	43.15	1.70	12.13	43.21
1.99	12.11	43.33	1.97	12.10	43.40	1.94	12.10	43.46	1.91	12.09	43.53	1.89	12.08	43.59	1.86	12.07	43.65
2.19	12.08	43.62	2.16	12.07	43.68	2.12	12.06	43.74	2.09	12.06	43.81	2.06	12.05	43.87	2.03	12.05	43.93
2.39	12.06	43.81	2.35	12.05	43.87	2.32	12.05	43.94	2.28	12.04	44.00	2.24	12.04	44.06	2.21	12.03	44.12
2.81	12.04	44.05	2.76	12.03	44.12	2.72	12.03	44.18	2.67	12.02	44.24	2.62	12.02	44.30	2.58	12.02	44.36
3.25	12.03	44.19	3.19	12.02	44.25	3.13	12.02	44.32	3.08	12.02	44.38	3.02	12.01	44.44	2.96	12.01	44.51
3.70	12.02	44.28	3.63	12.02	44.34	3.56	12.01	44.41	3.49	12.01	44.47	3.43	12.01	44.53	3.36	12.01	44.60
4.16	12.02	44.33	4.08	12.01	44.40	4.00	12.01	44.47	3.92	12.01	44.53	3.84	12.01	44.59	3.76	12.00	44.66
4.62	12.02	44.37	4.53	12.01	44.44	4.44	12.01	44.51	4.35	12.01	44.57	4.26	12.01	44.64	4.17	12.00	44.70
5.09	12.01	44.40	4.99	12.01	44.47	4.89	12.01	44.54	4.79	12.01	44.60	4.69	12.00	44.67	4.59	12.00	44.73
7.48	12.01	44.48	7.32	12.01	44.54	7.16	12.01	44.61	7.01	12.00	44.68	6.85	12.00	44.74	6.70	12.00	44.81
1.59	15.10	39.28	1.57	15.03	39.47	1.55	14.97	39.65	1.53	14.91	39.82	1.52	14.86	39.98	1.50	14.81	40.13
1.76	14.41	41.56	1.74	14.38	41.67	1.72	14.36	41.79	1.70	14.33	41.89	1.68	14.31	42.00	1.66	14.29	42.10
1.97	14.22	42.50	1.94	14.20	42.60	1.92	14.18	42.70	1.89	14.17	42.80	1.86	14.15	42.89	1.84	14.14	42.98
2.19	14.14	43.02	2.16	14.12	43.12	2.13	14.11	43.21	2.10	14.10	43.30	2.06	14.09	43.39	2.03	14.08	43.48
2.43	14.10	43.35	2.39	14.08	43.44	2.35	14.07	43.53	2.31	14.07	43.62	2.27	14.06	43.71	2.24	14.05	43.80
2.67	14.07	43.57	2.63	14.06	43.66	2.58	14.05	43.75	2.54	14.05	43.84	2.49	14.04	43.93	2.45	14.03	44.02
3.18	14.05	43.83	3.12	14.04	43.93	3.06	14.03	44.02	3.00	14.03	44.11	2.95	14.02	44.20	2.89	14.02	44.28
3.70	14.04	43.98	3.63	14.03	44.08	3.56	14.02	44.17	3.49	14.02	44.26	3.42	14.01	44.35	3.35	14.01	44.44
4.23	14.03	44.08	4.15	14.02	44.17	4.07	14.02	44.27	3.98	14.01	44.36	3.90	14.01	44.45	3.82	14.01	44.53
4.77	14.03	44.14	4.68	14.02	44.24	4.58	14.02	44.33	4.49	14.01	44.42	4.39	14.01	44.51	4.30	14.01	44.60
5.32	14.02	44.18	5.21	14.02	44.28	5.10	14.01	44.37	5.00	14.01	44.46	4.89	14.01	44.55	4.78	14.00	44.64
5.87	14.02	44.22	5.75	14.02	44.31	5.63	14.01	44.40	5.51	14.01	44.50	5.39	14.01	44.59	5.27	14.00	44.68
8.66	14.02	44.29	8.48	14.01	44.39	8.30	14.01	44.48	8.11	14.01	44.57	7.93	14.00	44.66	7.75	14.00	44.76

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(i) $\epsilon_p = 45°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$ θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	$\gamma_e = \gamma_\infty = 1.40$ θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	22.07	47.18	3.0	-	-	-	-	-	-	-	-	4.20	34.98	1.72	17.56	37.68	3.28	.4485	2.12
			4.0	45.35	31.35	2.08	16.87	39.59	5.17	.4239	2.38	4.40	28.66	1.92	16.54	40.77	4.13	.3931	2.82
			5.0	45.92	28.14	2.36	16.48	40.98	6.70	.3857	2.80	4.67	25.68	2.17	16.29	41.92	5.31	.3641	3.38
			6.0	46.14	26.35	2.66	16.33	41.67	8.62	.3566	3.11	4.78	23.95	2.44	16.18	42.53	6.76	.3071	3.84
			7.0	46.26	25.23	2.98	16.26	42.08	10.89	.3351	3.36	4.83	22.85	2.72	16.13	42.90	8.45	.2795	4.23
			8.0	46.33	24.48	3.31	16.21	42.35	13.50	.3191	3.55	4.87	22.10	3.01	16.10	43.15	10.40	.2587	4.54
			10.0	46.40	23.57	4.00	16.17	42.66	19.75	.2978	3.81	4.90	21.18	3.61	16.07	43.44	15.06	.2305	5.02
			12.0	46.44	23.05	4.70	16.14	42.83	27.37	.2849	3.98	4.92	20.65	4.23	16.06	43.61	20.73	.2132	5.36
			14.0	46.46	22.74	5.41	16.13	42.94	36.38	.2765	4.10	4.93	20.33	4.86	16.05	43.71	27.43	.2019	5.59
			16.0	46.48	22.53	6.13	16.12	43.01	46.77	.2709	4.18	4.94	20.11	5.50	16.05	43.78	35.15	.1942	5.77
			18.0	46.49	22.39	6.86	16.11	43.05	58.55	.2669	4.24	4.94	19.96	6.15	16.04	43.82	43.90	.1887	5.89
			20.0	46.49	22.29	7.58	16.11	43.09	71.71	.2640	4.28	4.95	19.86	6.79	16.04	43.86	53.67	.1847	5.99
			30.0	46.51	22.04	11.26	16.10	43.17	158.3	.2568	4.39	4.95	19.60	10.06	16.03	43.94	118.0	.1749	6.23
18	24.68	47.74	3.0	-	-	-	-	-	-	-	-	4.68	38.03	1.85	20.22	35.63	3.82	.4106	1.98
			4.0	45.02	34.51	2.27	19.25	38.06	6.17	.3968	2.18	4.67	30.97	2.06	18.66	39.98	4.78	.3634	2.66
			5.0	45.95	31.00	2.58	18.67	39.96	8.05	.3639	2.56	4.05	27.94	2.34	18.35	41.36	6.24	.3185	3.18
			6.0	46.29	29.16	2.92	18.46	40.82	10.44	.3386	2.84	4.20	26.23	2.65	18.23	42.06	8.04	.2852	3.59
			7.0	46.46	28.03	3.29	18.36	41.32	13.29	.3201	3.04	4.28	25.15	2.97	18.17	42.49	10.16	.2608	3.92
			8.0	46.56	27.29	3.67	18.30	41.63	16.58	.3066	3.19	4.32	24.43	3.31	18.13	42.76	12.60	.2428	4.19
			10.0	46.67	26.40	4.45	18.24	42.00	24.48	.2888	3.40	4.37	23.55	3.99	18.10	43.09	18.45	.2189	4.58
			12.0	46.72	25.91	5.24	18.21	42.19	34.13	.2782	3.53	4.39	23.05	4.70	18.08	43.27	25.59	.2044	4.85
			14.0	46.75	25.60	6.05	18.19	42.31	45.53	.2714	3.62	4.41	22.75	5.41	18.07	43.38	34.02	.1951	5.03
			16.0	46.77	25.40	6.86	18.18	42.39	58.69	.2668	3.68	4.42	22.55	6.13	18.06	43.45	43.74	.1888	5.16
			18.0	46.79	25.27	7.68	18.17	42.44	73.60	.2636	3.72	4.42	22.41	6.86	18.06	43.50	54.76	.1844	5.25
			20.0	46.79	25.17	8.51	18.17	42.48	90.26	.2613	3.76	4.43	22.31	7.59	18.06	43.54	67.07	.1811	5.32
			30.0	46.82	24.94	12.65	18.16	42.57	199.9	.2556	3.83	4.44	22.07	11.27	18.05	43.62	148.0	.1732	5.50
20	27.24	48.36	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	43.85	38.63	2.50	22.11	35.36	7.55	.3711	1.95	4.90	33.43	2.20	20.84	39.01	5.50	.3383	2.51
			5.0	45.78	34.20	2.81	20.97	38.55	9.63	.3458	2.33	4.44	30.31	2.52	20.44	40.69	7.26	.2976	2.98
			6.0	46.32	32.20	3.20	20.66	39.70	12.54	.3242	2.57	4.54	28.59	2.87	20.29	41.51	9.45	.2677	3.35
			7.0	46.58	31.03	3.61	20.52	40.32	16.04	.3085	2.74	4.75	27.53	3.24	20.22	41.99	12.05	.2463	3.63
			8.0	46.73	30.27	4.03	20.44	40.71	20.09	.2970	2.87	4.81	26.92	3.61	20.17	42.30	15.04	.2306	3.86
			10.0	46.89	29.38	4.91	20.35	41.14	29.85	.2821	3.04	4.87	25.97	4.38	20.13	42.67	22.21	.2101	4.18
			12.0	46.96	28.88	5.80	20.31	41.38	41.78	.2732	3.14	4.90	25.50	5.17	20.11	42.87	30.97	.1979	4.39
			14.0	47.01	28.59	6.70	20.29	41.51	55.88	.2676	3.21	4.92	25.21	5.96	20.10	42.99	41.32	.1901	4.54
			16.0	47.04	28.39	7.61	20.27	41.60	72.16	.2639	3.26	4.93	25.02	6.77	20.09	43.07	53.26	.1849	4.64
			18.0	47.05	28.26	8.52	20.26	41.67	90.60	.2613	3.29	4.94	24.89	7.58	20.08	43.12	66.79	.1812	4.71
			20.0	47.07	28.16	9.44	20.26	41.71	111.2	.2593	3.31	4.95	24.80	8.39	20.08	43.16	81.91	.1785	4.76
			30.0	47.10	27.93	14.05	20.24	41.81	246.8	.2547	3.37	4.96	24.57	12.47	20.07	43.25	181.4	.1720	4.90
22	29.74	49.03	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	4.02	36.12	2.36	23.11	37.74	6.32	.3166	2.34
			5.0	45.03	38.08	3.08	23.59	36.25	11.65	.3297	2.07	4.81	32.80	2.71	22.56	39.87	8.39	.2803	2.78
			6.0	46.09	35.62	3.49	23.01	38.09	15.02	.3123	2.31	4.09	31.05	3.10	22.37	40.84	11.01	.2537	3.11
			7.0	46.52	34.31	3.95	22.78	38.95	19.23	.2990	2.46	4.23	29.99	3.50	22.28	41.40	14.12	.2347	3.36
			8.0	46.75	33.50	4.41	22.65	39.45	24.13	.2894	2.57	4.31	29.30	3.91	22.23	41.75	17.71	.2210	3.55
			10.0	46.99	32.55	5.38	22.53	40.01	35.97	.2768	2.71	4.40	28.47	4.77	22.17	42.16	26.34	.2034	3.82
			12.0	47.11	32.05	6.37	22.47	40.30	50.46	.2694	2.80	4.44	28.01	5.63	22.15	42.38	36.88	.1929	3.99
			14.0	47.17	31.74	7.36	22.44	40.47	67.60	.2647	2.85	4.46	27.73	6.51	22.13	42.51	49.33	.1863	4.11
			16.0	47.22	31.54	8.37	22.42	40.58	87.38	.2616	2.89	4.48	27.54	7.40	22.12	42.60	63.70	.1819	4.19
			18.0	47.24	31.41	9.38	22.40	40.65	109.8	.2595	2.91	4.49	27.42	8.29	22.12	42.66	79.98	.1788	4.24
			20.0	47.26	31.31	10.39	22.40	40.70	134.9	.2579	2.93	4.50	27.33	9.18	22.11	42.70	98.18	.1766	4.29
			30.0	47.31	31.08	15.49	22.37	40.83	299.8	.2541	2.98	4.51	27.11	13.67	22.10	42.80	217.9	.1711	4.39
24	32.20	49.76	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	4.86	39.18	2.53	25.57	35.91	7.28	.2971	2.17
			5.0	-	-	-	-	-	-	-	-	4.12	35.45	2.90	24.74	38.81	9.65	.2657	2.59
			6.0	44.92	40.07	3.86	25.45	35.09	18.41	.3012	2.01	4.52	32.63	3.32	24.48	40.01	12.72	.2421	2.88
			7.0	45.96	38.18	4.33	25.29	36.77	23.17	.2909	2.17	4.71	31.55	3.77	24.37	40.66	16.39	.2254	3.10
			8.0	46.42	37.17	4.83	25.06	37.57	28.97	.2830	2.28	4.82	31.85	4.22	24.30	41.07	20.63	.2134	3.27
			10.0	46.84	36.07	5.89	24.84	38.38	43.12	.2725	2.40	4.93	31.03	5.15	24.23	41.54	30.83	.1980	3.49
			12.0	47.03	35.51	6.97	24.75	38.78	60.52	.2664	2.48	4.99	30.57	6.10	24.20	41.79	43.30	.1890	3.63
			14.0	47.14	35.17	8.06	24.69	39.01	81.11	.2625	2.52	5.02	30.30	7.06	24.18	41.93	58.04	.1834	3.73
			16.0	47.21	34.96	9.17	24.66	39.15	104.9	.2598	2.55	5.04	30.12	8.03	24.17	42.03	75.05	.1796	3.79
			18.0	47.25	34.81	10.28	24.64	39.25	131.8	.2580	2.57	5.05	30.00	9.00	24.16	42.10	94.32	.1770	3.84
			20.0	47.28	34.71	11.39	24.62	39.32	162.0	.2567	2.59	5.06	29.91	9.97	24.16	42.14	115.9	.1750	3.87
			30.0	47.35	34.46	16.98	24.59	39.48	360.2	.2535	2.63	5.09	29.70	14.86	24.15	42.25	257.6	.1704	3.95
26	34.60	50.54	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	5.14	43.92	2.77	29.09	31.46	8.82	.2749	1.91
			5.0	-	-	-	-	-	-	-	-	4.28	38.35	3.10	27.02	37.38	11.06	.2593	2.39
			6.0	-	-	-	-	-	-	-	-	4.88	36.37	3.56	26.65	38.93	14.60	.2325	2.66
			7.0	-	-	-	-	-	-	-	-	5.15	35.24	4.04	26.49	39.73	18.86	.2178	2.85
			8.0	-	-	-	-	-	-	-	-	5.30	34.52	4.53	26.41	40.22	23.81	.2072	3.00
			10.0	45.83	40.52	6.50	27.59	35.41	52.58	.2687	2.07	5.45	33.68	5.54	26.32	40.76	35.70	.1938	3.19
			12.0	46.31	39.69	7.66	27.35	36.21	73.22	.2637	2.15	5.53	33.22	6.57	26.28	41.05	50.26	.1859	3.31
			14.0	46.55	39.23	8.35	27.23	36.62	97.84	.2605	2.20	5.57	32.95	7.61	26.25	41.22	67.47	.1810	3.38
			16.0	46.69	38.95	10.26	27.16	36.87	126.3	.2583	2.23	5.60	32.77	8.66	26.24	41.33	87.32	.1778	3.44
			18.0	46.78	38.77	11.27	27.11	37.03	158.6	.2568	2.24	5.62	32.65	9.71	26.23	41.41	109.8	.1755	3.47
			20.0	46.85	38.63	12.49	27.08	37.14	194.8	.2557	2.26	5.63	32.56	10.76	26.22	41.46	135.0	.1739	3.50
			30.0	46.99	38.33	18.61	27.01	37.40	432.8	.2531	2.29	5.66	32.35	16.05	26.21	41.58	300.5	.1699	3.57
28	36.94	51.37	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	5.06	41.73	3.33	29.55	35.14	12.75	.2419	2.17
			6.0	-	-	-	-	-	-	-	-	5.09	39.34	3.80	28.92	37.45	16.71	.2243	2.44
			7.0	-	-	-	-	-	-	-	-	5.50	38.09	4.32	28.69	38.50	21.59	.2114	2.61
			8.0	-	-	-	-	-	-	-	-	5.72	37.32	4.85	28.56	39.11	27.28	.2021	2.74
			10.0	-	-	-	-	-	-	-	-	5.94	36.44	5.94	28.44	39.78	41.20	.1903	2.91
			12.0	-	-	-	-	-	-	-	-	6.04	35.97	7.05	28.39	40.12	57.80	.1834	3.01
			14.0	-	-	-	-	-	-	-	-	6.10	35.69	8.17	28.36	40.32	77.66	.1792	3.07
			16.0	-	-	-	-	-	-	-	-	6.14	35.51	9.29	28.34	40.45	100.6	.1763	3.12
			18.0	-	-	-	-	-	-	-	-	6.16	35.38	10.42	28.32	40.54	126.6	.1743	3.15
			20.0	-	-	-	-	-	-	-	-	6.18	35.29	11.56	28.32	40.60	155.6	.1729	3.17
			30.0	-	-	-	-	-	-	-	-	6.22	35.08	17.24	28.30	40.75	346.7	.1695	3.23
30	39.23	52.24	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(I) $\epsilon_p = 45°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Continued

γ_e = 1.35			γ_e = 1.30			γ_e = 1.25			γ_e = 1.20			γ_e = 1.15			γ_e = 1.10		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.69	17.42	38.03	1.67	17.29	38.35	1.65	17.19	38.63	1.62	17.10	38.90	1.60	17.01	39.14	1.58	16.94	39.37
1.89	16.49	40.95	1.86	16.41	41.12	1.84	16.41	41.28	1.81	16.38	41.44	1.79	16.35	41.59	1.76	16.32	41.74
2.13	16.26	42.07	2.10	16.23	42.21	2.07	16.21	42.35	2.04	16.19	42.49	2.01	16.17	42.62	1.98	16.15	42.75
2.40	16.16	42.67	2.36	16.15	42.81	2.32	16.13	42.94	2.28	16.11	43.07	2.24	16.10	43.19	2.21	16.09	43.31
2.67	16.12	43.04	2.63	16.10	43.17	2.58	16.09	43.30	2.54	16.08	43.43	2.49	16.06	43.55	2.45	16.05	43.67
2.96	16.09	43.28	2.90	16.08	43.41	2.85	16.06	43.54	2.80	16.05	43.67	2.75	16.04	43.79	2.70	16.04	43.91
3.54	16.06	43.58	3.48	16.05	43.71	3.41	16.04	43.83	3.34	16.03	43.96	3.28	16.03	44.08	3.21	16.02	44.20
4.15	16.05	43.74	4.07	16.04	43.87	3.99	16.03	44.00	3.90	16.02	44.12	3.82	16.02	44.24	3.75	16.01	44.36
4.77	16.04	43.84	4.67	16.03	43.97	4.57	16.02	44.10	4.48	16.02	44.22	4.38	16.01	44.34	4.29	16.01	44.46
5.39	16.04	43.91	5.28	16.03	44.04	5.17	16.02	44.17	5.06	16.02	44.29	4.95	16.01	44.41	4.84	16.01	44.53
6.02	16.03	43.96	5.89	16.03	44.08	5.77	16.02	44.21	5.64	16.01	44.34	5.52	16.01	44.46	5.40	16.01	44.58
6.65	16.03	43.99	6.51	16.02	44.12	6.37	16.02	44.25	6.23	16.01	44.37	6.10	16.01	44.49	5.96	16.00	44.61
9.85	16.03	44.07	9.64	16.02	44.20	9.42	16.01	44.33	9.21	16.01	44.45	9.01	16.01	44.57	8.80	16.00	44.69
1.81	19.91	36.35	1.78	19.68	36.92	1.74	19.49	37.40	1.72	19.33	37.82	1.69	19.20	38.19	1.67	19.09	38.53
2.03	18.60	40.24	1.99	18.54	40.49	1.96	18.48	40.72	1.93	18.44	40.95	1.90	18.39	41.15	1.87	18.35	41.35
2.30	18.31	41.57	2.27	18.28	41.77	2.23	18.24	41.97	2.19	18.22	42.16	2.16	18.19	42.34	2.12	18.17	42.51
2.61	18.20	42.26	2.56	18.17	42.45	2.51	18.15	42.63	2.47	18.13	42.81	2.43	18.11	42.98	2.38	18.09	43.14
2.92	18.14	42.68	2.87	18.12	42.86	2.81	18.10	43.03	2.76	18.09	43.20	2.71	18.07	43.37	2.66	18.06	43.53
3.25	18.11	42.95	3.18	18.09	43.13	3.12	18.08	43.30	3.06	18.06	43.47	3.00	18.05	43.63	2.95	18.04	43.79
3.92	18.08	43.27	3.84	18.06	43.45	3.76	18.05	43.62	3.68	18.04	43.78	3.61	18.03	43.94	3.53	18.02	44.10
4.60	18.06	43.45	4.51	18.05	43.62	4.42	18.04	43.79	4.32	18.03	43.96	4.23	18.02	44.12	4.14	18.01	44.28
5.30	18.06	43.56	5.19	18.04	43.73	5.08	18.03	43.90	4.97	18.02	44.07	4.86	18.02	44.23	4.76	18.01	44.38
6.01	18.05	43.63	5.88	18.04	43.80	5.75	18.03	43.97	5.63	18.02	44.14	5.50	18.01	44.30	5.38	18.01	44.45
6.72	18.05	43.68	6.57	18.04	43.85	6.43	18.03	44.02	6.29	18.02	44.19	6.15	18.01	44.35	6.01	18.01	44.50
7.43	18.04	43.72	7.27	18.03	43.89	7.11	18.02	44.06	6.95	18.02	44.22	6.80	18.01	44.38	6.64	18.01	44.54
11.03	18.04	43.80	10.79	18.03	43.97	10.55	18.02	44.14	10.31	18.01	44.31	10.07	18.01	44.47	9.84	18.00	44.62
1.96	23.04	33.31	1.90	22.34	34.83	1.85	21.95	35.77	1.82	21.67	36.48	1.78	21.46	37.07	1.75	21.28	37.57
2.16	20.74	39.40	2.13	20.65	39.76	2.09	20.57	40.09	2.05	20.50	40.39	2.02	20.44	40.68	1.99	20.39	40.95
2.48	20.38	40.99	2.43	20.33	41.27	2.39	20.29	41.53	2.35	20.25	41.79	2.31	20.21	42.03	2.27	20.18	42.25
2.82	20.25	41.78	2.76	20.21	42.04	2.71	20.18	42.28	2.66	20.15	42.51	2.61	20.12	42.74	2.56	20.10	42.95
3.17	20.18	42.25	3.11	20.15	42.49	3.05	20.12	42.73	2.99	20.10	42.95	2.93	20.08	43.17	2.88	20.06	43.38
3.54	20.14	42.55	3.47	20.12	42.79	3.40	20.09	43.02	3.33	20.07	43.24	3.26	20.06	43.45	3.20	20.04	43.66
4.29	20.10	42.91	4.20	20.08	43.14	4.11	20.06	43.36	4.03	20.05	43.58	3.94	20.04	43.79	3.86	20.02	43.99
5.06	20.09	43.11	4.95	20.07	43.33	4.84	20.05	43.55	4.74	20.04	43.77	4.64	20.03	43.98	4.54	20.02	44.18
5.84	20.08	43.22	5.71	20.06	43.45	5.59	20.04	43.67	5.46	20.03	43.88	5.34	20.02	44.09	5.22	20.01	44.29
6.62	20.07	43.30	6.48	20.05	43.53	6.34	20.04	43.75	6.20	20.03	43.96	6.06	20.02	44.16	5.92	20.01	44.36
7.41	20.06	43.35	7.25	20.05	43.58	7.09	20.03	43.80	6.93	20.02	44.01	6.77	20.01	44.22	6.62	20.01	44.42
8.20	20.06	43.39	8.02	20.05	43.62	7.85	20.03	43.84	7.67	20.02	44.05	7.50	20.01	44.25	7.32	20.01	44.45
12.20	20.06	43.48	11.93	20.04	43.71	11.66	20.03	43.92	11.39	20.02	44.14	11.13	20.01	44.34	10.87	20.01	44.54
-	-	-	-	-	-	1.99	24.92	32.99	1.93	24.22	34.61	1.88	23.82	35.64	1.84	23.53	36.43
2.31	22.94	38.35	2.26	22.80	38.87	2.22	22.68	39.34	2.18	22.59	39.76	2.14	22.50	40.15	2.10	22.43	40.51
2.65	22.47	40.29	2.60	22.40	40.67	2.55	22.34	41.03	2.50	22.28	41.37	2.46	22.24	41.68	2.41	22.20	41.98
3.03	22.31	41.21	2.97	22.26	41.55	2.91	22.21	41.87	2.86	22.17	42.18	2.80	22.14	42.47	2.74	22.11	42.75
3.43	22.23	41.74	3.36	22.19	42.07	3.29	22.15	42.37	3.22	22.12	42.66	3.16	22.09	42.94	3.09	22.07	43.21
3.83	22.18	42.08	3.75	22.15	42.39	3.67	22.11	42.69	3.60	22.09	42.98	3.52	22.07	43.25	3.45	22.05	43.51
4.66	22.14	42.48	4.56	22.11	42.78	4.47	22.08	43.07	4.37	22.06	43.35	4.27	22.04	43.61	4.18	22.03	43.87
5.51	22.11	42.69	5.39	22.09	42.99	5.27	22.06	43.27	5.16	22.05	43.55	5.04	22.03	43.81	4.93	22.02	44.06
6.37	22.10	42.82	6.23	22.08	43.12	6.09	22.06	43.40	5.96	22.04	43.67	5.82	22.02	43.93	5.69	22.01	44.18
7.23	22.09	42.91	7.07	22.07	43.20	6.92	22.05	43.48	6.76	22.03	43.75	6.61	22.02	44.01	6.45	22.01	44.26
8.10	22.09	42.96	7.92	22.07	43.25	7.74	22.05	43.53	7.57	22.03	43.80	7.40	22.02	44.06	7.22	22.01	44.32
8.98	22.09	43.00	8.77	22.06	43.30	8.58	22.04	43.57	8.38	22.03	43.84	8.19	22.02	44.10	8.00	22.01	44.35
13.36	22.08	43.10	13.06	22.06	43.39	12.76	22.04	43.67	12.47	22.02	43.94	12.18	22.01	44.20	11.89	22.01	44.45
-	-	-	-	-	-	-	-	-	-	-	-	1.99	26.45	33.55	1.94	25.90	34.96
2.46	25.24	36.94	2.40	25.01	37.75	2.35	24.83	38.43	2.30	24.69	39.02	2.26	24.58	39.54	2.21	24.48	40.02
2.84	24.60	39.42	2.78	24.49	39.95	2.72	24.40	40.44	2.66	24.33	40.88	2.61	24.27	41.29	2.56	24.22	41.67
3.25	24.39	40.51	3.18	24.32	40.97	3.11	24.25	41.40	3.05	24.20	41.80	2.99	24.16	42.17	2.93	24.12	42.52
3.68	24.29	41.13	3.60	24.23	41.56	3.53	24.18	41.96	3.45	24.14	42.33	3.38	24.10	42.68	3.31	24.08	43.02
4.13	24.24	41.51	4.04	24.18	41.92	3.95	24.14	42.31	3.87	24.11	42.67	3.78	24.08	43.02	3.70	24.05	43.34
5.04	24.18	41.96	4.93	24.14	42.35	4.82	24.10	42.72	4.71	24.07	43.07	4.61	24.05	43.41	4.50	24.03	43.73
5.97	24.15	42.20	5.83	24.11	42.58	5.70	24.08	42.94	5.57	24.06	43.29	5.45	24.04	43.62	5.32	24.02	43.93
6.90	24.14	42.34	6.75	24.10	42.72	6.59	24.07	43.08	6.44	24.05	43.42	6.29	24.03	43.75	6.15	24.02	44.06
7.84	24.13	42.43	7.67	24.09	42.81	7.49	24.07	43.17	7.32	24.04	43.51	7.15	24.03	43.83	6.98	24.01	44.14
8.79	24.12	42.49	8.59	24.09	42.87	8.39	24.06	43.23	8.20	24.04	43.56	8.01	24.02	43.89	7.82	24.01	44.20
9.74	24.12	42.54	9.52	24.09	42.91	9.30	24.06	43.27	9.08	24.04	43.61	8.87	24.02	43.93	8.66	24.01	44.24
14.52	24.11	42.65	14.18	24.08	43.02	13.85	24.05	43.37	13.53	24.03	43.71	13.21	24.02	44.03	12.90	24.01	44.34
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.04	28.55	32.76
2.63	27.81	34.76	2.55	27.35	36.21	2.49	27.05	37.26	2.43	26.84	38.11	2.38	26.67	38.83	2.33	26.54	39.46
3.02	26.79	38.30	2.95	26.62	39.06	2.89	26.49	39.72	2.82	26.39	40.31	2.76	26.31	40.84	2.71	26.24	41.33
3.47	26.51	39.64	3.39	26.40	40.27	3.32	26.31	40.83	3.24	26.24	41.35	3.18	26.18	41.82	3.11	26.13	42.26
3.94	26.38	40.37	3.85	26.29	40.94	3.77	26.22	41.46	3.68	26.17	41.94	3.60	26.12	42.39	3.52	26.09	42.81
4.43	26.31	40.82	4.32	26.24	41.36	4.23	26.18	41.86	4.13	26.13	42.32	4.04	26.09	42.75	3.95	26.06	43.16
5.41	26.24	41.32	5.29	26.18	41.84	5.17	26.13	42.31	5.05	26.09	42.75	4.93	26.06	43.17	4.82	26.04	43.57
6.42	26.21	41.59	6.27	26.15	42.09	6.12	26.11	42.56	5.98	26.07	42.99	5.84	26.05	43.40	5.71	26.03	43.79
7.43	26.19	41.75	7.26	26.14	42.24	7.09	26.09	42.70	6.92	26.06	43.13	6.76	26.04	43.54	6.60	26.02	43.92
8.45	26.18	41.86	8.25	26.13	42.34	8.06	26.09	42.80	7.87	26.06	43.22	7.69	26.03	43.62	7.51	26.02	44.01
9.48	26.17	41.93	9.25	26.12	42.41	9.04	26.08	42.86	8.82	26.05	43.28	8.62	26.03	43.69	8.41	26.02	44.07
10.51	26.16	41.98	10.26	26.12	42.46	10.01	26.08	42.91	9.78	26.05	43.33	9.55	26.03	43.73	9.32	26.01	44.11
15.67	26.15	42.10	15.29	26.11	42.57	14.93	26.07	43.02	14.58	26.04	43.44	14.23	26.02	43.83	13.89	26.01	44.21
-	-	-	2.73	30.02	33.70	2.64	29.40	35.66	2.56	29.04	36.96	2.50	28.80	37.97	2.45	28.62	38.81
3.22	29.09	36.75	3.13	28.81	37.91	3.06	28.62	38.84	2.98	28.47	39.63	2.92	28.36	40.32	2.85	28.27	40.94
3.70	28.68	38.52	3.61	28.51	39.39	3.52	28.38	40.15	3.44	28.29	40.82	3.36	28.21	41.42	3.29	28.15	41.97
4.21	28.51	39.41	4.10	28.38	40.18	4.01	28.28	40.87	3.91	28.20	41.48	3.82	28.14	42.05	3.74	28.10	42.57
4.73	28.42	39.94	4.61	28.31	40.67	4.50	28.22	41.31	4.40	28.16	41.90	4.30	28.11	42.44	4.20	28.07	42.94
5.79	28.32	40.54	5.65	28.27	41.21	5.51	28.17	41.82	5.38	28.11	42.38	5.26	28.07	42.90	5.14	28.04	43.38
6.87	28.28	40.85	6.70	28.20	41.50	6.54	28.14	42.09	6.39	28.09	42.64	6.24	28.06	43.14	6.09	28.03	43.62
7.96	28.26	41.03	7.77	28.18	41.67	7.58	28.12	42.25	7.40	28.08	42.79	7.22	28.05	43.29	7.05	28.03	43.76
9.06	28.24	41.15	8.84	28.17	41.78	8.62	28.11	42.36	8.42	28.07	42.89	8.22	28.04	43.39	8.02	28.02	43.85
10.16	28.23	41.23	9.91	28.16	41.86	9.67	28.11	42.43	9.44	28.07	42.96	9.22	28.04	43.45	9.00	28.02	43.92
11.27	28.23	41.29	10.99	28.16	41.91	10.72	28.10	42.48	10.47	28.07	43.01	10.21	28.04	43.50	9.97	28.02	43.96
16.81	28.21	41.42	16.40	28.14	42.04	16.00	28.09	42.60	15.61	28.06	43.12	15.24	28.03	43.61	14.87	28.01	44.07
-	-	-	-	-	-	2.81	32.13	32.93	2.70	31.37	35.38	2.63	30.98	36.89	2.56	30.72	38.04

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(i) $\epsilon_p = 45°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
30	39.23	52.24	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	48.89	42.81	4.08	31.45	35.04	19.23	.2166	2.70
			7.0	-	-	-	-	-	-	-	-	49.63	41.25	4.62	31.02	36.73	24.68	.2038	2.37
			8.0	-	-	-	-	-	-	-	-	49.98	40.36	5.18	30.82	37.58	31.15	.1977	2.49
			10.0	-	-	-	-	-	-	-	-	50.31	39.39	6.35	30.64	38.45	46.81	.1874	2.64
			12.0	-	-	-	-	-	-	-	-	50.47	38.88	7.53	30.56	38.89	66.00	.1814	2.73
			14.0	-	-	-	-	-	-	-	-	50.55	38.58	8.73	30.51	39.14	88.75	.1776	2.78
			16.0	-	-	-	-	-	-	-	-	50.61	38.38	9.93	30.49	39.30	115.0	.1751	2.82
			18.0	-	-	-	-	-	-	-	-	50.64	38.25	11.14	30.47	39.41	144.7	.1734	2.85
			20.0	-	-	-	-	-	-	-	-	50.67	38.16	12.36	30.46	39.49	178.0	.1721	2.87
			30.0	-	-	-	-	-	-	-	-	50.72	37.94	18.44	30.43	39.67	396.7	.1691	2.91
32	41.47	53.15	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	48.97	45.27	4.97	33.84	33.36	28.69	.2004	2.10
			8.0	-	-	-	-	-	-	-	-	49.81	43.90	5.55	33.34	35.10	35.74	.1937	2.23
			10.0	-	-	-	-	-	-	-	-	50.43	42.66	6.78	32.99	36.50	53.40	.1848	2.37
			12.0	-	-	-	-	-	-	-	-	50.69	42.05	8.04	32.85	37.14	75.21	.1796	2.46
			14.0	-	-	-	-	-	-	-	-	50.83	41.71	9.31	32.78	37.49	101.1	.1763	2.51
			16.0	-	-	-	-	-	-	-	-	50.92	41.49	10.60	32.73	37.70	130.9	.1741	2.54
			18.0	-	-	-	-	-	-	-	-	50.97	41.34	11.89	32.71	37.85	164.7	.1726	2.56
			20.0	-	-	-	-	-	-	-	-	51.01	41.23	13.18	32.69	37.95	202.6	.1715	2.58
			30.0	-	-	-	-	-	-	-	-	51.10	40.99	19.68	32.64	38.19	451.5	.1688	2.62
34	43.65	54.11	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	49.37	47.18	7.34	36.06	32.19	62.61	.1822	2.05
			12.0	-	-	-	-	-	-	-	-	50.25	45.97	8.63	35.54	33.96	86.67	.1779	2.16
			14.0	-	-	-	-	-	-	-	-	50.58	45.43	9.97	35.35	34.67	115.9	.1750	2.22
			16.0	-	-	-	-	-	-	-	-	50.77	45.11	11.34	35.25	35.08	149.8	.1732	2.25
			18.0	-	-	-	-	-	-	-	-	50.88	44.91	12.71	35.19	35.33	188.2	.1718	2.27
			20.0	-	-	-	-	-	-	-	-	50.96	44.77	14.08	35.15	35.51	231.3	.1709	2.29
			30.0	-	-	-	-	-	-	-	-	51.12	44.44	21.01	35.06	35.90	514.6	.1686	2.33
36	45.78	55.11	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	47.85	56.14	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	49.88	57.20	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	51.86	58.30	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(c) $\epsilon_p = 45°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
3.45	31.71	34.20	3.32	31.12	36.30	3.29	30.79	37.70	3.15	30.58	38.79	3.07	30.42	39.71	3.00	30.30	40.50
3.94	30.96	36.95	3.83	30.68	38.26	3.73	30.49	39.30	3.63	30.35	40.18	3.55	30.25	40.95	3.47	30.17	41.64
4.48	30.70	38.13	4.36	30.50	39.23	4.24	30.35	40.14	4.14	30.25	40.94	4.04	30.17	41.65	3.95	30.11	42.29
5.03	30.57	38.81	4.90	30.41	39.81	4.78	30.28	40.66	4.66	30.19	41.41	4.55	30.13	42.08	4.44	30.08	42.70
6.17	30.45	39.54	6.01	30.31	40.44	5.86	30.21	41.23	5.72	30.14	41.94	5.58	30.09	42.58	5.45	30.05	43.17
7.33	30.39	39.91	7.14	30.27	40.78	6.96	30.18	41.54	6.79	30.12	42.22	6.63	30.07	42.85	6.47	30.04	43.42
8.49	30.36	40.13	8.27	30.24	40.97	8.07	30.16	41.72	7.87	30.10	42.39	7.68	30.06	43.01	7.50	30.03	43.58
9.67	30.34	40.27	9.42	30.23	41.10	9.18	30.15	41.83	8.96	30.09	42.50	8.74	30.05	43.11	8.53	30.03	43.67
10.84	30.32	40.36	10.57	30.22	41.18	10.30	30.14	41.91	10.05	30.09	42.57	9.80	30.05	43.18	9.57	30.02	43.74
12.02	30.31	40.43	11.72	30.21	41.24	11.42	30.14	41.97	11.14	30.09	42.62	10.87	30.05	43.23	10.61	30.02	43.79
17.95	30.29	40.59	17.49	30.20	41.39	17.05	30.13	42.10	16.63	30.08	42.75	16.22	30.04	43.35	15.83	30.02	43.90
-	-	-	-	-	-	-	-	-	2.86	34.04	32.74	2.76	33.25	35.43	2.68	32.86	37.08
-	-	-	3.54	33.77	33.59	3.41	33.08	36.13	3.31	32.73	37.73	3.22	32.51	38.95	3.15	32.35	39.97
4.21	33.54	34.37	4.05	32.95	36.49	3.93	32.64	38.21	3.83	32.44	39.40	3.73	32.30	40.39	3.64	32.20	41.25
4.76	33.04	36.28	4.61	32.68	37.97	4.48	32.46	39.24	4.37	32.31	40.28	4.26	32.20	41.17	4.16	32.13	41.97
5.35	32.83	37.23	5.19	32.55	38.69	5.05	32.37	39.84	4.92	32.24	40.81	4.80	32.16	41.66	4.69	32.09	42.42
6.56	32.64	38.20	6.37	32.42	39.47	6.20	32.28	40.51	6.05	32.18	41.41	5.90	32.11	42.21	5.76	32.06	42.93
7.79	32.55	38.67	7.57	32.37	39.86	7.37	32.24	40.86	7.19	32.15	41.73	7.01	32.09	42.50	6.84	32.05	43.20
9.03	32.51	38.94	8.78	32.33	40.10	8.55	32.22	41.07	8.34	32.13	41.91	8.13	32.08	42.67	7.93	32.04	43.36
10.28	32.48	39.12	10.00	32.31	40.24	9.74	32.20	41.20	9.49	32.12	42.03	9.26	32.07	42.78	9.03	32.03	43.47
11.53	32.46	39.23	11.22	32.30	40.34	10.92	32.19	41.29	10.65	32.12	42.12	10.38	32.06	42.86	10.13	32.03	43.54
12.79	32.45	39.32	12.44	32.29	40.41	12.12	32.19	41.35	11.81	32.11	42.17	11.52	32.06	42.91	11.23	32.03	43.59
19.10	32.42	39.51	18.58	32.27	40.58	18.09	32.17	41.50	17.63	32.10	42.31	17.20	32.05	43.04	16.77	32.02	43.71
-	-	-	-	-	-	-	-	-	-	-	-	2.90	35.76	33.18	2.80	35.07	35.85
-	-	-	-	-	-	3.61	35.66	33.54	3.48	34.97	36.29	3.38	34.63	38.02	3.29	34.41	39.34
-	-	-	4.31	35.50	34.10	4.15	34.87	36.72	4.03	34.56	38.41	3.92	34.36	39.71	3.82	34.23	40.80
5.11	35.94	32.59	4.88	35.00	36.15	4.73	34.62	38.05	4.60	34.39	39.46	4.48	34.25	40.61	4.37	34.15	41.59
5.70	35.36	34.65	5.49	34.79	37.16	5.33	34.49	38.80	5.18	34.31	40.08	5.05	34.19	41.16	4.92	34.11	42.09
6.97	34.98	36.22	6.74	34.60	38.17	6.55	34.37	39.61	6.37	34.23	40.77	6.21	34.13	41.77	6.06	34.07	42.64
8.27	34.84	36.90	8.01	34.51	38.67	7.78	34.32	40.02	7.58	34.19	41.15	7.39	34.11	42.09	7.20	34.05	42.94
9.59	34.76	37.28	9.29	34.47	38.96	9.03	34.29	40.26	8.79	34.17	41.34	8.57	34.10	42.28	8.36	34.05	43.12
10.91	34.72	37.52	10.58	34.44	39.14	10.28	34.27	40.41	10.01	34.16	41.48	9.76	34.09	42.40	9.52	34.04	43.23
12.24	34.69	37.68	11.87	34.42	39.26	11.54	34.26	40.51	11.24	34.15	41.57	10.95	34.08	42.49	10.68	34.04	43.31
13.57	34.67	37.78	13.16	34.41	39.35	12.80	34.25	40.59	12.47	34.15	41.63	12.15	34.08	42.54	11.85	34.03	43.36
20.27	34.62	38.04	19.66	34.38	39.55	19.12	34.23	40.76	18.62	34.13	41.78	18.15	34.07	42.68	17.70	34.03	43.49
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.93	37.40	34.10
-	-	-	-	-	-	-	-	-	3.66	37.41	34.08	3.54	36.80	36.79	3.44	36.49	38.58
-	-	-	-	-	-	4.38	37.33	34.40	4.22	36.74	37.10	4.10	36.45	38.87	3.99	36.27	40.26
-	-	-	5.20	37.77	32.71	4.98	36.88	36.39	4.82	36.52	38.42	4.69	36.31	39.92	4.57	36.18	41.15
-	-	-	5.82	37.25	34.72	5.61	36.69	37.40	5.44	36.41	39.17	5.29	36.24	40.55	5.16	36.13	41.70
7.50	38.03	31.81	7.12	36.90	36.30	6.89	36.51	38.43	6.69	36.30	39.98	6.52	36.17	41.24	6.35	36.09	42.31
8.82	37.50	33.73	8.46	36.76	37.00	8.19	36.44	38.94	7.97	36.25	40.40	7.76	36.14	41.60	7.56	36.07	42.64
10.21	37.30	34.49	9.81	36.69	37.39	9.51	36.40	39.23	9.25	36.23	40.64	9.00	36.12	41.81	8.78	36.06	42.83
11.60	37.20	34.91	11.17	36.65	37.64	10.83	36.37	39.41	10.53	36.21	40.80	10.26	36.11	41.95	10.00	36.05	42.95
13.01	37.14	35.19	12.53	36.62	37.80	12.16	36.36	39.54	11.82	36.20	40.90	11.51	36.10	42.04	11.22	36.05	43.04
14.42	37.10	35.37	13.90	36.60	37.91	13.48	36.35	39.62	13.11	36.19	40.97	12.77	36.10	42.11	12.45	36.04	43.10
21.52	37.01	35.78	20.76	36.56	38.17	20.14	36.32	39.83	19.59	36.18	41.15	19.08	36.09	42.26	18.60	36.04	43.24
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.08	40.18	30.83
-	-	-	-	-	-	-	-	-	-	-	-	3.70	39.09	35.06	3.58	38.60	37.62
-	-	-	-	-	-	-	-	-	4.43	39.06	35.18	4.29	38.57	37.80	4.17	38.32	39.60
-	-	-	-	-	-	5.26	39.63	33.60	5.05	38.71	37.01	4.90	38.39	39.07	4.77	38.21	40.63
-	-	-	-	-	-	5.90	39.04	35.30	5.70	38.55	37.98	5.54	38.30	39.80	5.39	38.16	41.24
-	-	-	7.57	39.65	32.69	7.24	38.75	36.79	7.02	38.40	38.98	6.82	38.22	40.60	6.64	38.11	41.93
-	-	-	8.96	39.28	34.20	8.61	38.63	37.47	8.35	38.34	39.48	8.12	38.18	41.01	7.91	38.08	42.28
-	-	-	10.37	39.12	34.89	9.99	38.57	37.85	9.69	38.30	39.77	9.43	38.16	41.25	9.19	38.07	42.49
-	-	-	11.80	39.04	35.29	11.38	38.53	38.08	11.04	38.28	39.95	10.74	38.14	41.41	10.47	38.06	42.63
-	-	-	13.24	38.98	35.55	12.77	38.51	38.24	12.40	38.27	40.07	12.06	38.14	41.51	11.75	38.06	42.72
-	-	-	14.68	38.95	35.73	14.17	38.49	38.35	13.75	38.26	40.16	13.38	38.13	41.58	13.03	38.05	42.78
-	-	-	21.91	38.87	36.12	21.17	38.45	38.61	20.55	38.24	40.36	20.00	38.12	41.76	19.48	38.05	42.94
-	-	-	-	-	-	-	-	-	-	-	-	3.88	41.73	31.97	3.73	40.77	34.35
-	-	-	-	-	-	-	-	-	4.68	41.90	31.30	4.47	40.77	36.34	4.34	40.40	38.79
-	-	-	-	-	-	-	-	-	5.30	41.05	34.90	5.11	40.51	37.96	4.97	40.26	39.99
-	-	-	-	-	-	6.32	42.47	29.34	5.96	40.78	36.31	5.77	40.39	38.86	5.62	40.19	40.69
-	-	-	-	-	-	7.63	41.22	34.07	7.34	40.56	37.64	7.12	40.28	39.81	6.93	40.13	41.46
-	-	-	-	-	-	9.05	40.98	35.22	8.73	40.47	38.27	8.48	40.23	40.29	8.25	40.10	41.86
-	-	-	-	-	-	10.49	40.87	35.80	10.14	40.42	38.63	9.85	40.20	40.57	9.58	40.09	42.10
-	-	-	-	-	-	11.95	40.81	36.15	11.55	40.39	38.85	11.22	40.19	40.74	10.92	40.08	42.24
-	-	-	-	-	-	13.41	40.77	36.38	12.97	40.37	39.01	12.60	40.18	40.86	12.26	40.07	42.35
-	-	-	-	-	-	14.87	40.74	36.54	14.39	40.36	39.11	13.98	40.17	40.95	13.61	40.07	42.42
-	-	-	25.36	41.82	31.60	22.21	40.68	36.90	21.50	40.33	39.36	20.89	40.15	41.14	20.34	40.06	42.59
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.88	43.05	34.52
-	-	-	-	-	-	-	-	-	-	-	-	4.67	43.14	34.09	4.50	42.51	37.75
-	-	-	-	-	-	-	-	-	5.64	44.44	28.91	5.33	42.70	36.45	5.16	42.33	39.19
-	-	-	-	-	-	-	-	-	6.25	43.26	33.51	6.01	42.52	37.62	5.84	42.24	40.02
-	-	-	-	-	-	-	-	-	7.67	42.83	35.68	7.41	42.37	38.80	7.20	42.16	40.90
-	-	-	-	-	-	-	-	-	9.12	42.68	36.58	8.83	42.31	39.38	8.58	42.13	41.36
-	-	-	-	-	-	11.11	43.77	31.35	10.59	42.61	37.07	10.26	42.27	39.71	9.97	42.11	41.62
-	-	-	-	-	-	12.61	43.51	32.40	12.06	42.56	37.37	11.69	42.25	39.92	11.37	42.10	41.79
-	-	-	-	-	-	14.13	43.38	32.95	13.54	42.53	37.56	13.12	42.24	40.06	12.77	42.09	41.90
-	-	-	-	-	-	15.66	43.31	33.30	15.02	42.51	37.70	14.56	42.23	40.16	14.17	42.09	41.98
-	-	-	-	-	-	25.35	43.15	34.01	22.45	42.47	38.02	21.77	42.21	40.39	21.18	42.08	42.17

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(j) $\epsilon_p = 45°$; $\Gamma = 5°$; $\epsilon_r = 5.02°$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	2.81	45.08	3.0	45.04	21.14	1.08	2.13	44.29	1.21	.8910	2.85	45.06	20.96	1.07	2.13	44.30	1.16	.8904	2.89
			4.0	45.06	16.02	1.10	2.06	44.52	1.27	.8658	3.77	45.07	15.85	1.09	2.06	44.53	1.23	.8647	3.85
			5.0	45.07	13.04	1.13	2.03	44.64	1.34	.8398	4.68	45.07	12.87	1.11	2.03	44.65	1.28	.8381	4.79
			6.0	45.07	11.08	1.15	2.02	44.72	1.41	.8144	5.56	45.07	10.92	1.14	2.02	44.73	1.34	.8118	5.72
			7.0	45.07	9.70	1.18	2.01	44.77	1.49	.7898	6.42	45.08	9.54	1.16	2.01	44.78	1.40	.7864	6.63
			8.0	45.07	8.67	1.21	2.01	44.81	1.57	.7661	7.27	45.08	8.51	1.18	2.01	44.81	1.47	.7619	7.53
			10.0	45.07	7.24	1.26	2.00	44.86	1.74	.7220	8.89	45.08	7.08	1.23	2.00	44.87	1.60	.7156	9.30
			12.0	45.07	6.31	1.32	2.00	44.89	1.92	.6818	10.44	45.08	6.14	1.28	2.00	44.90	1.75	.6731	11.01
			14.0	45.07	5.65	1.38	2.00	44.92	2.12	.6454	11.92	45.08	5.47	1.34	2.00	44.92	1.91	.6341	12.68
			16.0	45.07	5.16	1.44	2.00	44.93	2.34	.6124	13.33	45.08	4.98	1.39	2.00	44.94	2.08	.5965	14.29
			18.0	45.07	4.79	1.50	1.99	44.95	2.57	.5826	14.66	45.09	4.60	1.44	1.99	44.95	2.27	.5659	15.85
			20.0	45.07	4.50	1.57	1.99	44.96	2.82	.5557	15.93	45.08	4.31	1.50	1.99	44.96	2.46	.5362	17.36
			30.0	45.07	3.66	1.92	1.99	44.99	4.34	.4551	21.31	45.08	3.45	1.81	1.99	44.99	3.64	.4221	24.17
4	5.64	45.01	3.0	44.86	22.95	1.17	4.27	43.34	1.46	.7985	2.70	44.93	22.55	1.15	4.25	43.38	1.38	.7963	2.79
			4.0	44.93	17.71	1.22	4.12	43.83	1.60	.7571	3.56	44.97	17.34	1.19	4.11	43.86	1.49	.7530	3.70
			5.0	44.95	14.70	1.27	4.06	44.08	1.76	.7160	4.38	44.98	14.34	1.24	4.06	44.11	1.62	.7098	4.59
			6.0	44.96	12.76	1.32	4.04	44.23	1.95	.6776	5.16	44.99	12.40	1.29	4.03	44.26	1.77	.6690	5.45
			7.0	44.97	11.40	1.38	4.02	44.34	2.14	.6423	5.90	44.99	11.03	1.34	4.02	44.36	1.93	.6312	6.28
			8.0	44.97	10.40	1.44	4.01	44.41	2.36	.6101	6.60	44.99	10.03	1.39	4.01	44.44	2.10	.5963	7.09
			10.0	44.97	9.04	1.57	4.00	44.51	2.84	.5543	7.90	44.99	8.65	1.50	4.00	44.54	2.47	.5349	8.62
			12.0	44.97	8.17	1.71	4.00	44.57	3.39	.5084	9.07	45.00	7.77	1.62	3.99	44.60	2.90	.4835	10.06
			14.0	44.97	7.58	1.85	3.99	44.62	4.01	.4708	10.12	45.00	7.16	1.74	3.99	44.65	3.38	.4405	11.40
			16.0	44.98	7.15	1.99	3.99	44.65	4.71	.4399	11.05	45.00	6.72	1.87	3.99	44.68	3.92	.4046	12.63
			18.0	44.98	6.83	2.14	3.99	44.67	5.48	.4143	11.87	45.00	6.39	2.00	3.99	44.70	4.51	.3744	13.77
			20.0	44.98	6.59	2.30	3.99	44.69	6.34	.3932	12.60	45.00	6.14	2.14	3.99	44.72	5.17	.3490	14.82
			30.0	44.98	5.95	3.11	3.99	44.73	11.83	.3285	15.14	45.00	5.46	2.85	3.99	44.77	9.33	.2690	18.85
6	8.47	45.01	3.0	44.66	24.92	1.26	6.43	42.33	1.75	.7198	2.56	44.81	24.25	1.23	6.39	42.43	1.61	.7154	2.68
			4.0	44.83	19.54	1.34	6.18	43.12	1.99	.6692	3.36	44.92	18.94	1.30	6.16	43.20	1.80	.6610	3.56
			5.0	44.88	16.54	1.42	6.09	43.51	2.28	.6208	4.09	44.95	15.94	1.37	6.08	43.58	2.03	.6086	4.39
			6.0	44.90	14.62	1.51	6.05	43.74	2.60	.5775	4.77	44.96	14.02	1.45	6.04	43.81	2.30	.5612	5.18
			7.0	44.91	13.30	1.61	6.03	43.89	2.99	.5397	5.40	44.97	12.69	1.54	6.02	43.96	2.59	.5192	5.93
			8.0	44.92	12.35	1.71	6.02	44.00	3.41	.5068	5.98	44.97	11.72	1.63	6.01	44.07	2.92	.4821	6.64
			10.0	44.97	11.08	1.92	6.00	44.14	4.37	.4537	7.00	44.98	10.43	1.81	6.00	44.22	3.65	.4211	7.95
			12.0	44.93	10.29	2.14	6.00	44.23	5.50	.4139	7.85	44.98	9.62	2.00	5.99	44.30	4.52	.3741	9.12
			14.0	44.93	9.77	2.38	5.99	44.29	6.81	.3836	8.55	44.98	9.07	2.21	5.99	44.36	5.52	.3377	10.14
			16.0	44.93	9.41	2.61	5.99	44.33	8.30	.3605	9.14	44.98	8.69	2.42	5.98	44.40	6.65	.3093	11.04
			18.0	44.93	9.14	2.86	5.99	44.36	9.98	.3425	9.63	44.98	8.41	2.63	5.98	44.43	7.92	.2869	11.82
			20.0	44.93	8.94	3.11	5.99	44.38	11.84	.3284	10.03	44.98	8.20	2.85	5.98	44.46	9.33	.2690	12.50
			30.0	44.93	8.64	4.51	5.98	44.43	24.03	.2895	11.26	44.98	7.67	4.00	5.98	44.51	18.52	.2187	14.78
8	11.29	45.08	3.0	44.42	27.07	1.37	8.62	41.21	2.08	.6527	2.42	44.71	26.08	1.32	8.56	41.44	1.86	.6458	2.58
			4.0	44.74	21.54	1.47	8.25	42.37	2.45	.5983	3.16	44.91	20.65	1.41	8.21	42.53	2.16	.5853	3.41
			5.0	44.83	18.53	1.59	8.13	42.90	2.91	.5478	3.82	44.97	17.66	1.52	8.10	43.05	2.52	.5288	4.19
			6.0	44.87	16.65	1.72	8.07	43.21	3.45	.5043	4.41	44.99	15.77	1.63	8.05	43.35	2.94	.4799	4.91
			7.0	44.89	15.38	1.86	8.04	43.47	4.06	.4681	4.93	45.00	14.49	1.75	8.03	43.55	3.41	.4383	5.58
			8.0	44.91	14.48	2.00	8.03	43.56	4.76	.4381	5.40	45.01	13.57	1.88	8.01	43.70	3.94	.4032	6.20
			10.0	44.92	13.31	2.30	8.01	43.74	6.38	.3923	6.18	45.02	12.36	2.14	7.99	43.88	5.18	.3485	7.29
			12.0	44.93	12.60	2.62	8.00	43.84	8.32	.3602	6.79	45.02	11.63	2.42	7.99	43.99	6.66	.3092	8.21
			14.0	44.93	12.14	2.95	7.99	43.91	10.60	.3373	7.26	45.02	11.15	2.71	7.98	44.06	8.38	.2805	8.98
			16.0	44.94	11.83	3.28	7.99	43.96	13.21	.3206	7.63	45.03	10.81	3.00	7.98	44.11	10.35	.2591	9.61
			18.0	44.94	11.61	3.62	7.99	43.99	16.16	.3080	7.92	45.03	10.58	3.30	7.98	44.14	12.57	.2430	10.14
			20.0	44.94	11.44	3.97	7.99	44.01	19.44	.2985	8.15	45.03	10.40	3.61	7.98	44.17	15.04	.2306	10.57
			30.0	44.94	11.04	5.74	7.98	44.07	41.01	.2736	8.80	45.03	9.96	5.19	7.97	44.23	31.26	.1976	11.90
10	14.11	45.22	3.0	44.09	29.47	1.48	10.89	39.92	2.47	.5949	2.27	44.61	28.04	1.41	10.72	40.37	2.15	.5836	2.47
			4.0	44.66	23.70	1.61	10.34	41.54	2.98	.5408	2.96	44.95	22.48	1.53	10.27	41.83	2.56	.5229	3.27
			5.0	44.81	20.68	1.77	10.18	42.24	3.65	.4911	3.55	45.04	19.50	1.67	10.13	42.50	3.08	.4659	3.99
			6.0	44.88	18.84	1.94	10.10	42.63	4.45	.4504	4.06	45.08	17.65	1.82	10.07	42.88	3.69	.4184	4.64
			7.0	44.92	17.62	2.12	10.07	42.89	5.37	.4177	4.49	45.10	16.42	1.98	10.03	43.13	4.40	.3796	5.23
			8.0	44.94	16.77	2.31	10.04	43.06	6.42	.3915	4.87	45.11	15.54	2.14	10.02	43.30	5.20	.3480	5.76
			10.0	44.96	15.69	2.70	10.02	43.27	8.89	.3534	5.46	45.12	14.42	2.49	10.00	43.52	7.07	.3010	6.66
			12.0	44.97	15.05	3.12	10.01	43.40	11.89	.3281	5.89	45.13	13.75	2.85	9.99	43.64	9.33	.2691	7.37
			14.0	44.98	14.64	3.54	10.00	43.47	15.41	.3108	6.21	45.13	13.32	3.23	9.98	43.72	11.98	.2467	7.94
			16.0	44.99	14.37	3.97	9.99	43.53	19.46	.2985	6.45	45.13	13.03	3.61	9.98	43.78	15.02	.2307	8.39
			18.0	44.99	14.17	4.41	9.99	43.56	24.05	.2895	6.63	45.14	12.83	4.00	9.98	43.82	18.47	.2188	8.74
			20.0	44.99	14.03	4.85	9.99	43.59	29.17	.2828	6.77	45.14	12.68	4.39	9.97	43.84	22.31	.2099	9.03
			30.0	45.00	13.69	7.10	9.98	43.65	62.80	.2658	7.15	45.14	12.31	6.39	9.97	43.91	47.54	.1870	9.84
12	16.90	45.42	3.0	43.55	32.20	1.60	13.29	38.31	2.95	.5440	2.12	44.48	30.17	1.51	12.94	39.16	2.48	.5333	2.36
			4.0	44.56	26.03	1.76	12.67	40.60	3.60	.4940	2.77	45.02	24.42	1.65	12.34	41.08	3.02	.4714	3.12
			5.0	44.81	22.99	1.95	12.44	41.49	4.52	.4474	3.29	45.16	21.44	1.83	12.16	41.91	3.73	.4161	3.78
			6.0	44.91	21.18	2.17	12.15	41.98	5.63	.4103	3.73	45.22	19.64	2.02	12.08	42.38	4.58	.3716	4.37
			7.0	44.97	20.01	2.39	12.10	42.28	6.92	.3815	4.09	45.25	18.45	2.22	12.04	42.67	5.56	.3365	4.89
			8.0	45.00	19.20	2.63	12.07	42.49	8.41	.3592	4.38	45.26	17.62	2.42	12.02	42.87	6.68	.3087	5.34
			10.0	45.04	18.18	3.12	12.04	42.73	11.93	.3279	4.83	45.28	16.58	2.85	12.00	43.12	9.33	.2690	6.07
			12.0	45.06	17.60	3.63	12.02	42.88	16.22	.3078	5.14	45.29	15.97	3.30	11.99	43.26	12.55	.2431	6.62
			14.0	45.07	17.23	4.15	12.01	42.96	21.26	.2945	5.37	45.30	15.58	3.76	11.98	43.35	16.33	.2256	7.04
			16.0	45.08	16.99	4.67	12.01	43.02	27.08	.2852	5.53	45.30	15.32	4.23	11.98	43.41	20.69	.2133	7.36
			18.0	45.08	16.82	5.21	12.00	43.06	33.67	.2786	5.65	45.30	15.14	4.70	11.97	43.45	25.62	.2044	7.61
			20.0	45.08	16.69	5.74	12.00	43.09	41.03	.2736	5.74	45.30	15.01	5.18	11.97	43.48	31.12	.1977	7.80
			30.0	45.09	16.39	8.47	11.99	43.16	89.41	.2614	5.97	45.31	14.69	7.61	11.97	43.55	67.32	.1811	8.32
14	19.68	45.70	3.0	42.46	35.63	1.75	16.06	35.94	3.57	.4961	1.94	44.26	32.51	1.61	15.26	37.73	2.87	.4873	2.24
			4.0	44.40	28.58	1.91	14.64	39.47	4.33	.4556	2.58	45.11	26.47	1.78	14.42	40.27	3.54	.4287	2.97
			5.0	44.80	25.46	2.15	14.34	40.62	5.53	.4130	3.04	45.32	23.49	1.99	14.20	41.27	4.47	.3764	3.58
			6.0	44.96	23.67	2.41	14.21	41.22	7.01	.3801	3.41	45.40	21.72	2.22	14.11	41.82	5.59	.3356	4.11
			7.0	45.04	22.52	2.68	14.15	41.58	8.74	.3551	3.71	45.44	20.58	2.46	14.06	42.16	6.90	.3043	4.55
			8.0	45.08	21.75	2.96	14.11	41.82	10.74	.3362	3.95	45.47	19.79	2.71	14.03	42.39	8.39	.2802	4.93
			10.0	45.14	20.79	3.55	14.07	42.10	15.51	.3104	4.29	45.50	18.81	3.22	14.01	42.67	11.96	.2468	5.53
			12.0	45.17	20.24	4.15	14.05	42.26	21.32	.2944	4.52	45.51	18.25	3.76	13.99	42.83	16.30	.2257	5.96
			14.0	45.19	19.91	4.77	14.04	42.36	28.17	.2839	4.68	45.52	17.89	4.30	13.98	42.93	21.42	.2117	6.27
			16.0	45.20	19.68	5.39	14.03	42.42	36.08	.2767	4.79	45.52	17.66	4.85	13.98	42.99	27.32	.2020	6.50
			18.0	45.20	19.53	6.02	14.03	42.47	45.03	.2716	4.87	45.53	17.50	5.41	13.98	43.04	34.00	.1951	6.68
			20.0	45.21	19.42	6.65	14.02	42.50	55.04	.2679	4.93	45.53	17.38	5.97	13.97	43.07	41.46	.1900	6.81
			30.0	45.22	19.15	9.84	14.01	42.58	120.9	.2587	5.09	45.53	17.09	8.82	13.97	43.15	90.53	.1774	7.17

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(j) $\epsilon_p = 45°$, $\Gamma = 5°$, $\epsilon_r = 5.02°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.07	2.13	44.30	1.07	2.13	44.30	1.07	2.12	44.31	1.07	2.12	44.31	1.07	2.12	44.31	1.06	2.12	44.31
1.09	2.06	44.53	1.09	2.06	44.53	1.09	2.06	44.53	1.08	2.06	44.54	1.08	2.06	44.54	1.08	2.06	44.54
1.11	2.03	44.65	1.11	2.03	44.65	1.11	2.03	44.65	1.10	2.03	44.66	1.10	2.03	44.66	1.10	2.03	44.66
1.13	2.02	44.73	1.13	2.02	44.73	1.13	2.02	44.73	1.12	2.02	44.73	1.12	2.02	44.73	1.12	2.02	44.73
1.16	2.01	44.78	1.15	2.01	44.78	1.15	2.01	44.78	1.15	2.01	44.78	1.14	2.01	44.78	1.14	2.01	44.78
1.18	2.01	44.82	1.18	2.01	44.82	1.17	2.01	44.82	1.17	2.01	44.82	1.16	2.00	44.82	1.16	2.00	44.82
1.23	2.00	44.87	1.22	2.00	44.87	1.22	2.00	44.87	1.21	2.00	44.87	1.21	2.00	44.87	1.20	2.00	44.87
1.28	2.00	44.90	1.27	2.00	44.90	1.26	2.00	44.90	1.26	2.00	44.90	1.25	2.00	44.91	1.24	2.00	44.91
1.33	2.00	44.92	1.32	2.00	44.93	1.31	2.00	44.93	1.30	2.00	44.93	1.30	2.00	44.93	1.29	2.00	44.93
1.38	2.00	44.94	1.37	1.99	44.94	1.36	1.99	44.94	1.35	1.99	44.95	1.34	1.99	44.95	1.33	1.99	44.95
1.43	1.99	44.96	1.42	1.99	44.96	1.41	1.99	44.96	1.40	1.99	44.96	1.39	1.99	44.96	1.38	1.99	44.96
1.49	1.99	44.97	1.48	1.99	44.97	1.47	1.99	44.97	1.45	1.99	44.97	1.44	1.99	44.97	1.43	1.99	44.97
1.79	1.99	45.00	1.77	1.99	45.00	1.75	1.99	45.00	1.73	1.99	45.00	1.71	1.99	45.00	1.69	1.99	45.00
1.15	4.25	43.39	1.14	4.25	43.39	1.14	4.25	43.40	1.14	4.24	43.41	1.13	4.24	43.42	1.13	4.24	43.42
1.19	4.11	43.87	1.18	4.11	43.88	1.18	4.11	43.88	1.17	4.10	43.89	1.17	4.10	43.89	1.17	4.10	43.90
1.23	4.06	44.11	1.23	4.05	44.12	1.22	4.05	44.12	1.22	4.05	44.13	1.21	4.05	44.14	1.21	4.05	44.14
1.28	4.03	44.27	1.27	4.03	44.28	1.27	4.03	44.28	1.26	4.03	44.28	1.25	4.03	44.29	1.25	4.03	44.29
1.33	4.02	44.37	1.32	4.02	44.37	1.32	4.01	44.38	1.31	4.01	44.38	1.30	4.01	44.39	1.29	4.01	44.39
1.38	4.01	44.44	1.37	4.01	44.45	1.36	4.01	44.45	1.36	4.01	44.46	1.35	4.01	44.46	1.34	4.00	44.47
1.49	4.00	44.54	1.48	4.00	44.55	1.47	4.00	44.55	1.46	4.00	44.56	1.44	4.00	44.56	1.43	4.00	44.57
1.61	3.99	44.61	1.59	3.99	44.61	1.58	3.99	44.62	1.56	3.99	44.62	1.55	3.99	44.63	1.53	3.99	44.63
1.73	3.99	44.65	1.71	3.99	44.66	1.69	3.99	44.66	1.67	3.99	44.67	1.65	3.99	44.67	1.64	3.99	44.68
1.85	3.99	44.68	1.83	3.99	44.69	1.81	3.99	44.69	1.79	3.99	44.70	1.76	3.99	44.71	1.74	3.99	44.71
1.98	3.99	44.71	1.95	3.99	44.71	1.93	3.99	44.72	1.90	3.99	44.72	1.88	3.99	44.73	1.85	3.99	44.73
2.11	3.99	44.72	2.08	3.99	44.73	2.05	3.99	44.74	2.02	3.99	44.74	2.00	3.99	44.75	1.97	3.99	44.75
2.81	3.99	44.77	2.76	3.99	44.78	2.71	3.99	44.79	2.67	3.99	44.79	2.62	3.99	44.80	2.58	3.99	44.80
1.23	6.38	42.45	1.22	6.37	42.49	1.22	6.37	42.49	1.21	6.36	42.51	1.20	6.36	42.53	1.20	6.35	42.54
1.29	6.16	43.22	1.28	6.15	43.23	1.28	6.15	43.24	1.27	6.15	43.26	1.26	6.14	43.27	1.26	6.14	43.28
1.36	6.08	43.59	1.36	6.08	43.61	1.35	6.07	43.62	1.34	6.07	43.63	1.33	6.07	43.64	1.32	6.07	43.66
1.44	6.04	43.82	1.43	6.04	43.83	1.42	6.04	43.85	1.41	6.03	43.86	1.40	6.03	43.87	1.39	6.03	43.88
1.52	6.02	43.97	1.51	6.02	43.99	1.50	6.02	44.00	1.49	6.02	44.01	1.47	6.01	44.02	1.46	6.01	44.04
1.61	6.01	44.08	1.59	6.01	44.10	1.58	6.01	44.11	1.56	6.00	44.12	1.55	6.00	44.13	1.53	6.00	44.15
1.79	6.00	44.23	1.77	5.99	44.24	1.75	5.99	44.25	1.73	5.99	44.27	1.71	5.99	44.28	1.69	5.99	44.29
1.98	5.99	44.32	1.95	5.99	44.33	1.93	5.99	44.34	1.90	5.99	44.36	1.88	5.99	44.37	1.85	5.99	44.38
2.18	5.99	44.38	2.15	5.98	44.39	2.12	5.98	44.40	2.09	5.98	44.42	2.06	5.98	44.43	2.03	5.98	44.44
2.38	5.98	44.42	2.35	5.98	44.43	2.31	5.98	44.45	2.28	5.98	44.46	2.24	5.98	44.47	2.20	5.98	44.49
2.59	5.98	44.45	2.55	5.98	44.46	2.51	5.98	44.48	2.47	5.98	44.49	2.43	5.98	44.51	2.39	5.98	44.52
2.81	5.98	44.47	2.76	5.98	44.49	2.71	5.98	44.50	2.67	5.98	44.51	2.62	5.98	44.53	2.58	5.98	44.54
3.93	5.98	44.53	3.85	5.98	44.55	3.78	5.98	44.56	3.71	5.98	44.58	3.63	5.98	44.59	3.56	5.98	44.61
1.31	8.53	41.48	1.30	8.51	41.52	1.29	8.50	41.56	1.29	8.49	41.59	1.28	8.47	41.63	1.27	8.46	41.66
1.40	8.21	42.56	1.39	8.20	42.59	1.38	8.19	42.61	1.37	8.19	42.64	1.36	8.18	42.67	1.35	8.17	42.69
1.50	8.10	43.07	1.49	8.09	43.10	1.48	8.09	43.12	1.47	8.09	43.15	1.45	8.08	43.17	1.44	8.08	43.20
1.62	8.05	43.38	1.60	8.05	43.40	1.58	8.04	43.43	1.57	8.04	43.45	1.55	8.04	43.48	1.54	8.03	43.50
1.73	8.02	43.58	1.71	8.02	43.60	1.69	8.02	43.63	1.68	8.02	43.65	1.66	8.01	43.68	1.64	8.01	43.70
1.85	8.01	43.72	1.83	8.01	43.75	1.81	8.00	43.77	1.79	8.00	43.79	1.77	8.00	43.82	1.75	8.00	43.84
2.11	7.99	43.90	2.08	7.99	43.93	2.05	7.99	43.95	2.02	7.99	43.98	2.00	7.99	44.00	1.97	7.98	44.03
2.38	7.99	44.01	2.35	7.98	44.04	2.31	7.98	44.07	2.27	7.98	44.09	2.24	7.98	44.12	2.20	7.98	44.14
2.66	7.98	44.09	2.62	7.98	44.11	2.58	7.98	44.14	2.53	7.98	44.16	2.49	7.98	44.19	2.45	7.98	44.21
2.95	7.98	44.13	2.90	7.98	44.16	2.85	7.98	44.19	2.80	7.98	44.21	2.75	7.97	44.24	2.70	7.97	44.27
3.25	7.98	44.17	3.19	7.98	44.20	3.13	7.97	44.22	3.07	7.97	44.25	3.02	7.97	44.28	2.96	7.97	44.30
3.55	7.98	44.20	3.48	7.97	44.22	3.42	7.97	44.25	3.35	7.97	44.28	3.29	7.97	44.30	3.22	7.97	44.33
5.09	7.97	44.26	4.99	7.97	44.29	4.89	7.97	44.32	4.79	7.97	44.34	4.69	7.97	44.37	4.59	7.97	44.40
1.40	10.69	40.44	1.39	10.67	40.51	1.38	10.64	40.58	1.37	10.62	40.64	1.36	10.60	40.71	1.35	10.57	40.77
1.52	10.26	41.88	1.50	10.25	41.93	1.49	10.23	41.98	1.47	10.22	42.03	1.46	10.21	42.07	1.45	10.20	42.12
1.65	10.12	42.54	1.63	10.11	42.59	1.62	10.11	42.63	1.60	10.10	42.67	1.58	10.09	42.71	1.57	10.09	42.76
1.80	10.06	42.92	1.78	10.05	42.97	1.76	10.05	43.01	1.74	10.04	43.05	1.71	10.04	43.09	1.69	10.03	43.13
1.95	10.03	43.17	1.93	10.02	43.21	1.90	10.02	43.26	1.88	10.02	43.30	1.85	10.01	43.34	1.83	10.01	43.38
2.11	10.01	43.34	2.08	10.01	43.38	2.06	10.00	43.43	2.03	10.00	43.47	2.00	10.00	43.51	1.97	9.99	43.55
2.45	9.98	43.56	2.41	9.99	43.60	2.38	9.99	43.64	2.34	9.98	43.69	2.30	9.98	43.73	2.26	9.98	43.77
2.81	9.98	43.69	2.76	9.98	43.73	2.71	9.98	43.77	2.66	9.98	43.82	2.62	9.97	43.86	2.57	9.97	43.90
3.17	9.98	43.77	3.11	9.98	43.81	3.06	9.97	43.85	3.00	9.97	43.90	2.95	9.97	43.94	2.89	9.97	43.98
3.54	9.97	43.82	3.48	9.97	43.87	3.41	9.97	43.91	3.35	9.97	43.95	3.28	9.97	44.00	3.22	9.97	44.04
3.92	9.97	43.86	3.85	9.97	43.91	3.77	9.97	43.95	3.70	9.97	43.99	3.63	9.97	44.04	3.55	9.96	44.08
4.31	9.97	43.89	4.22	9.97	43.93	4.14	9.97	43.98	4.06	9.97	44.02	3.97	9.97	44.07	3.89	9.96	44.11
6.27	9.97	43.96	6.14	9.97	44.00	6.01	9.97	44.05	5.88	9.96	44.10	5.75	9.96	44.14	5.63	9.96	44.19
1.49	12.89	39.29	1.48	12.85	39.41	1.46	12.81	39.53	1.45	12.77	39.64	1.44	12.73	39.75	1.42	12.70	39.85
1.64	12.32	41.17	1.62	12.30	41.25	1.60	12.28	41.32	1.58	12.26	41.40	1.57	12.25	41.47	1.55	12.23	41.54
1.81	12.15	41.98	1.78	12.13	42.05	1.76	12.12	42.12	1.74	12.11	42.19	1.72	12.10	42.26	1.70	12.09	42.32
1.99	12.07	42.44	1.96	12.06	42.51	1.94	12.06	42.58	1.91	12.05	42.64	1.88	12.04	42.71	1.86	12.03	42.77
2.18	12.04	42.74	2.15	12.03	42.80	2.12	12.02	42.87	2.09	12.02	42.93	2.06	12.01	42.99	2.03	12.00	43.06
2.38	12.02	42.94	2.35	12.01	43.00	2.31	12.00	43.07	2.27	12.00	43.13	2.24	11.99	43.19	2.20	11.99	43.25
2.80	11.99	43.18	2.76	11.99	43.25	2.71	11.98	43.32	2.66	11.98	43.38	2.62	11.97	43.44	2.57	11.97	43.51
3.24	11.98	43.93	3.18	11.98	43.39	3.12	11.97	43.46	3.07	11.97	43.52	3.01	11.97	43.59	2.95	11.96	43.65
3.69	11.98	43.42	3.62	11.97	43.48	3.55	11.97	43.55	3.48	11.97	43.62	3.41	11.96	43.68	3.35	11.96	43.74
4.15	11.97	43.48	4.07	11.97	43.54	3.99	11.97	43.61	3.91	11.96	43.68	3.83	11.96	43.74	3.75	11.96	43.81
4.61	11.97	43.52	4.52	11.97	43.59	4.43	11.96	43.65	4.34	11.96	43.72	4.25	11.96	43.78	4.16	11.96	43.85
5.08	11.97	43.55	4.97	11.97	43.62	4.87	11.96	43.68	4.77	11.96	43.75	4.67	11.96	43.82	4.57	11.96	43.88
7.45	11.97	43.62	7.29	11.96	43.69	7.14	11.96	43.76	6.98	11.96	43.83	6.83	11.96	43.89	6.68	11.96	43.96
1.59	15.17	37.95	1.57	15.09	38.16	1.55	15.01	38.36	1.54	14.95	38.54	1.52	14.89	38.71	1.50	14.83	38.87
1.76	14.39	40.39	1.74	14.36	40.51	1.72	14.33	40.63	1.70	14.31	40.75	1.68	14.28	40.86	1.66	14.26	40.96
1.97	14.18	41.38	1.94	14.16	41.49	1.91	14.14	41.59	1.89	14.13	41.69	1.86	14.11	41.79	1.83	14.10	41.88
2.19	14.09	41.93	2.15	14.08	42.03	2.12	14.07	42.12	2.09	14.05	42.22	2.06	14.04	42.31	2.03	14.03	42.40
2.42	14.05	42.26	2.38	14.04	42.36	2.34	14.03	42.46	2.31	14.02	42.55	2.27	14.01	42.64	2.23	14.00	42.73
2.66	14.02	42.49	2.62	14.01	42.59	2.57	14.00	42.68	2.53	14.00	42.78	2.49	13.99	42.87	2.44	13.98	42.96
3.17	14.00	42.77	3.11	13.99	42.87	3.05	13.98	42.96	3.00	13.98	43.05	2.94	13.97	43.14	2.88	13.96	43.23
3.69	13.98	42.93	3.62	13.98	43.02	3.55	13.97	43.12	3.48	13.97	43.21	3.41	13.96	43.30	3.34	13.96	43.39
4.22	13.98	43.02	4.14	13.97	43.12	4.05	13.97	43.22	3.97	13.96	43.31	3.89	13.96	43.40	3.81	13.95	43.49
4.76	13.97	43.09	4.66	13.97	43.19	4.57	13.96	43.28	4.47	13.96	43.38	4.38	13.95	43.47	4.29	13.95	43.56
5.30	13.97	43.13	5.19	13.97	43.23	5.09	13.96	43.33	4.98	13.96	43.42	4.87	13.95	43.52	4.77	13.95	43.61
5.85	13.97	43.17	5.73	13.96	43.26	5.61	13.96	43.36	5.49	13.96	43.46	5.37	13.95	43.55	5.25	13.95	43.64
8.63	13.96	43.24	8.45	13.96	43.34	8.27	13.96	43.44	8.08	13.95	43.53	7.90	13.95	43.63	7.72	13.95	43.72

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(f) $\epsilon_p = 45°$; $\Gamma = 5°$; $\epsilon_r = 502°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$: θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	$\gamma_e = \gamma_\infty = 1.40$: ϑ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	22.42	46.04	3.0	-	-	-	-	-	-	-	-	4.83	35.19	1.73	17.75	35.87	3.32	.4455	2.11
			4.0	44.11	31.40	2.06	16.91	45.06	.5418	.4234	2.38	4.22	28.66	1.92	16.53	39.34	4.13	.3931	2.82
			5.0	44.74	28.12	2.36	16.47	39.57	6.70	.3858	2.80	4.51	25.65	2.16	16.25	40.56	5.30	.3446	3.38
			6.0	44.98	26.31	2.46	16.30	40.31	8.60	.3568	3.12	4.63	23.90	2.43	16.14	41.21	6.73	.3076	3.85
			7.0	45.11	25.18	2.98	16.22	40.74	10.84	.3354	3.36	4.69	22.79	2.71	16.08	41.60	8.41	.2800	4.23
			8.0	45.18	24.42	3.41	16.17	41.02	13.44	.3194	3.55	4.72	22.04	3.00	16.05	41.86	10.35	.2591	4.55
			10.0	45.26	23.50	3.99	16.12	41.35	19.64	.2980	3.82	4.76	21.11	3.60	16.02	42.17	14.97	.2309	5.04
			12.0	45.30	22.99	4.69	16.09	41.53	27.22	.2850	3.99	4.78	20.59	4.22	16.00	42.34	20.60	.2135	5.37
			14.0	45.32	22.67	5.40	16.08	41.64	36.17	.2767	4.11	4.79	20.26	4.85	15.99	42.45	27.25	.2021	5.61
			16.0	45.33	22.46	6.11	16.07	41.71	46.49	.2710	4.19	4.80	20.04	5.48	15.99	42.52	34.91	.1944	5.78
			18.0	45.34	22.32	6.83	16.06	41.76	58.18	.2670	4.25	4.80	19.89	6.12	15.98	42.57	43.60	.1889	5.91
			20.0	45.35	22.21	7.56	16.06	41.80	71.25	.2640	4.29	4.81	19.78	6.77	15.98	42.60	53.30	.1849	6.01
			30.0	45.37	21.96	11.22	16.05	41.88	157.2	.2569	4.40	4.81	19.52	10.04	15.97	42.68	117.1	.1750	6.26
18	25.14	46.45	3.0	-	-	-	-	-	-	-	-	4.58	38.81	1.88	20.88	32.72	3.96	.4024	1.95
			4.0	43.45	34.73	2.28	19.41	36.04	6.24	.3952	2.17	4.30	30.99	2.06	18.68	38.25	4.78	.3632	2.66
			5.0	44.57	31.03	2.58	18.69	38.23	8.06	.3637	2.56	4.73	27.91	2.34	18.32	39.75	6.22	.3188	3.18
			6.0	44.95	29.14	2.92	18.45	39.18	10.43	.3387	2.84	4.89	26.18	2.65	18.18	40.51	8.01	.2856	3.60
			7.0	45.13	28.00	3.29	18.33	39.71	13.26	.3205	3.04	4.97	25.09	2.97	18.12	40.96	10.11	.2612	3.93
			8.0	45.24	27.24	3.66	18.27	40.05	16.52	.3068	3.20	5.02	24.36	3.30	18.08	41.25	12.54	.2432	4.20
			10.0	45.36	26.34	4.44	18.20	40.44	24.37	.2890	3.41	5.07	23.47	3.98	18.04	41.60	18.34	.2192	4.59
			12.0	45.41	25.84	5.23	18.16	40.65	33.96	.2783	3.54	5.10	22.98	4.66	18.02	41.79	25.63	.2046	4.86
			14.0	45.45	25.53	6.03	18.14	40.78	45.30	.2715	3.63	5.11	22.67	5.40	18.01	41.90	33.80	.1953	5.04
			16.0	45.47	25.33	6.85	18.13	40.86	58.37	.2669	3.69	5.12	22.47	6.11	18.00	41.98	43.45	.1890	5.18
			18.0	45.48	25.19	7.66	18.12	40.92	73.15	.2637	3.74	5.13	22.33	6.84	18.00	42.03	54.39	.1845	5.27
			20.0	45.49	25.09	8.48	18.12	40.96	89.75	.2613	3.77	5.13	22.23	7.57	17.99	42.07	66.61	.1812	5.34
			30.0	45.52	24.86	12.61	18.10	41.05	198.7	.2556	3.85	5.14	21.99	11.23	17.98	42.16	147.0	.1733	5.53
20	27.81	46.92	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	44.12	34.35	2.82	21.08	36.37	9.70	.3451	2.32	5.32	33.51	2.21	20.91	36.92	5.52	.3376	2.50
			6.0	44.77	32.24	3.20	20.69	37.70	12.57	.3240	2.57	5.94	30.29	2.52	20.42	38.80	7.25	.2977	2.98
			7.0	45.06	31.03	3.61	20.52	38.40	16.03	.3085	2.74	6.17	28.54	2.87	20.25	39.69	9.42	.2680	3.35
			8.0	45.23	30.25	4.03	20.42	38.82	20.06	.2971	2.87	6.28	27.47	3.23	20.16	40.22	12.00	.2466	3.64
			10.0	45.40	29.33	4.90	20.32	39.30	29.77	.2822	3.05	6.35	26.76	3.60	20.12	40.55	14.97	.2309	3.87
			12.0	45.49	28.83	5.79	20.27	39.55	41.63	.2733	3.15	6.42	25.90	4.37	20.07	40.94	27.05	.2104	4.19
			14.0	45.53	28.53	6.69	20.25	39.70	55.67	.2677	3.22	6.45	25.42	5.15	20.04	41.15	36.79	.1981	4.41
			16.0	45.57	28.33	7.59	20.23	39.80	71.86	.2639	3.27	6.47	25.13	5.94	20.03	41.28	47.07	.1902	4.55
			18.0	45.59	28.19	8.50	20.22	39.87	90.21	.2612	3.30	6.49	24.94	6.75	20.02	41.36	58.94	.1850	4.65
			20.0	45.60	28.09	9.42	20.21	39.92	110.7	.2594	3.32	6.50	24.80	7.55	20.01	41.42	71.37	.1813	4.73
			30.0	45.63	27.86	14.02	20.19	40.04	245.7	.2547	3.38	6.50	24.71	8.36	20.01	41.46	84.37	.1786	4.78
												6.51	24.48	12.43	20.00	41.56	166.2	.1721	4.92
22	30.44	47.45	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	42.50	38.95	3.14	24.15	32.78	12.1	.3268	2.02	5.16	36.32	2.37	23.28	35.14	6.38	.3151	2.33
			6.0	44.20	35.84	3.51	23.16	35.52	15.19	.3116	2.29	6.13	32.81	2.71	22.57	37.64	8.40	.2802	2.78
			7.0	44.75	34.41	3.96	22.85	36.57	19.33	.2988	2.45	6.45	31.06	3.09	22.34	38.73	10.99	.2536	3.11
			8.0	45.03	33.55	4.42	22.69	37.16	24.20	.2893	2.57	6.61	29.94	3.49	22.23	39.34	14.07	.2349	3.37
			10.0	45.30	32.56	5.38	22.54	37.80	35.98	.2768	2.71	6.79	28.39	4.75	22.11	40.17	26.20	.2095	3.83
			12.0	45.44	32.03	6.36	22.46	38.13	50.42	.2694	2.80	6.84	27.92	5.62	22.08	40.41	38.67	.1951	4.01
			14.0	45.51	31.72	7.36	22.42	38.32	67.51	.2648	2.85	6.86	27.64	6.49	22.06	40.56	46.34	.1864	4.12
			16.0	45.56	31.51	8.36	22.40	38.44	87.23	.2616	2.89	6.88	27.45	7.38	22.05	40.65	63.32	.1820	4.20
			18.0	45.59	31.37	9.37	22.38	38.52	109.6	.2595	2.92	6.89	27.33	8.26	22.05	40.71	79.49	.1789	4.26
			20.0	45.62	31.27	10.38	22.37	38.58	134.6	.2579	2.94	6.90	27.24	9.15	22.04	40.76	97.57	.1766	4.30
			30.0	45.67	31.03	15.47	22.34	38.72	299.0	.2541	2.98	6.92	27.02	13.63	22.03	40.87	216.5	.1717	4.41
24	33.02	48.04	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	4.40	39.86	2.56	26.09	32.22	7.50	.2935	2.13
			5.0	-	-	-	-	-	-	-	-	6.23	35.54	2.93	24.81	36.10	9.69	.2653	2.59
			6.0	-	-	-	-	-	-	-	-	6.70	33.63	3.32	24.48	37.65	11.72	.2527	2.78
			7.0	43.54	38.80	4.39	25.68	33.33	23.81	.2899	2.13	6.92	32.52	3.76	24.34	38.24	13.87	.2455	3.11
			8.0	44.26	37.51	4.87	25.27	34.64	29.43	.2805	2.25	7.05	31.80	4.22	24.26	38.74	16.57	.2396	3.39
			10.0	44.84	36.25	5.91	24.96	35.60	43.49	.2724	2.39	7.17	30.95	5.14	24.18	39.26	20.70	.2332	3.70
			12.0	45.09	35.63	6.99	24.82	36.09	60.87	.2683	2.47	7.24	30.49	6.09	24.14	39.54	43.02	.2301	3.89
			14.0	45.22	35.26	8.08	24.75	36.37	81.47	.2624	2.51	7.27	30.23	7.05	24.12	39.70	55.74	.2285	3.74
			16.0	45.31	35.03	9.18	24.71	36.55	105.3	.2598	2.56	7.30	30.07	8.01	24.10	39.81	71.65	.2273	3.92
			18.0	45.36	34.87	10.29	24.68	36.66	132.3	.2580	2.57	7.31	29.91	8.97	24.09	39.88	89.42	.2266	3.95
			20.0	45.43	34.76	11.40	24.66	36.74	162.4	.2567	2.58	7.32	29.82	9.94	24.09	39.93	110.2	.2261	3.98
			30.0	45.49	34.53	16.99	24.62	36.94	360.3	.2535	2.62	7.35	29.61	14.92	24.07	40.05	256.2	.2245	4.07
26	35.55	48.68	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	6.07	38.62	3.12	27.22	34.87	12.14	.2722	2.37
			6.0	-	-	-	-	-	-	-	-	6.36	36.43	3.56	26.70	36.02	14.65	.2573	2.66
			7.0	-	-	-	-	-	-	-	-	7.19	35.24	4.04	26.50	36.97	17.87	.2497	2.95
			8.0	-	-	-	-	-	-	-	-	7.36	34.49	4.53	26.39	37.53	22.78	.2453	3.20
			10.0	-	-	-	-	-	-	-	-	7.54	33.62	5.54	26.28	38.15	32.60	.2408	3.60
			12.0	43.25	40.79	7.34	28.00	31.74	76.64	.2631	2.07	7.53	33.15	6.56	26.22	38.48	50.58	.2380	3.92
			14.0	43.85	39.99	8.20	27.67	32.67	101.0	.2602	2.14	7.58	32.87	7.60	26.20	38.67	72.16	.2361	4.19
			16.0	44.12	39.56	10.19	27.52	33.12	129.7	.2581	2.18	7.71	32.69	8.64	26.18	38.79	98.65	.2348	4.45
			18.0	44.29	39.30	11.40	27.44	33.39	162.4	.2567	2.20	7.73	32.56	9.69	26.17	38.88	130.3	.2339	4.68
			20.0	44.39	39.13	12.52	27.38	33.57	199.0	.2556	2.22	7.74	32.47	10.74	26.16	38.94	166.4	.2332	4.91
			30.0	44.62	38.73	18.17	27.26	33.96	440.5	.2531	2.26	7.78	32.24	16.01	26.14	39.08	398.0	.2316	5.48
28	38.03	49.38	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	4.35	43.36	3.43	30.72	29.11	13.58	.2374	2.57
			6.0	-	-	-	-	-	-	-	-	6.74	39.60	3.82	29.12	33.82	16.90	.2235	2.42
			7.0	-	-	-	-	-	-	-	-	7.30	38.20	4.33	28.77	35.20	21.68	.2111	2.61
			8.0	-	-	-	-	-	-	-	-	7.58	37.47	4.86	28.60	35.95	27.34	.2057	2.74
			10.0	-	-	-	-	-	-	-	-	7.84	36.43	5.94	28.44	36.75	40.98	.1993	2.92
			12.0	-	-	-	-	-	-	-	-	7.97	35.94	7.04	28.36	37.15	57.71	.1965	3.01
			14.0	-	-	-	-	-	-	-	-	8.04	35.65	8.16	28.32	37.39	77.49	.1950	3.08
			16.0	-	-	-	-	-	-	-	-	8.08	35.46	9.28	28.30	37.54	100.3	.1942	3.12
			18.0	-	-	-	-	-	-	-	-	8.11	35.33	10.41	28.28	37.64	126.2	.1936	3.15
			20.0	-	-	-	-	-	-	-	-	8.13	35.23	11.54	28.27	37.71	155.2	.1929	3.18
			30.0	-	-	-	-	-	-	-	-	8.18	35.02	17.21	28.24	37.88	345.8	.1905	3.29
30	40.46	50.14	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(1) $\epsilon_p = 45°$; $\Gamma = 5°$, $\epsilon_r = 5.02°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.70	17.57	36.30	1.67	17.42	36.67	1.65	17.29	37.00	1.63	17.18	37.30	1.60	17.08	37.57	1.58	16.99	37.82
1.89	16.48	39.53	1.86	16.44	39.71	1.84	16.40	39.89	1.81	16.36	40.05	1.79	16.32	40.21	1.76	16.29	40.37
2.13	16.22	40.72	2.10	16.19	40.88	2.07	16.17	41.02	2.04	16.15	41.17	2.00	16.12	41.30	1.97	16.11	41.44
2.39	16.12	41.36	2.35	16.10	41.50	2.31	16.08	41.64	2.28	16.06	41.77	2.24	16.05	41.90	2.20	16.03	42.03
2.67	16.06	41.74	2.62	16.05	41.88	2.57	16.03	42.02	2.53	16.02	42.15	2.48	16.01	42.27	2.44	16.00	42.40
2.95	16.04	42.00	2.89	16.02	42.13	2.84	16.01	42.27	2.79	16.00	42.40	2.74	15.99	42.52	2.69	15.98	42.65
3.53	16.00	42.31	3.47	15.99	42.44	3.40	15.98	42.57	3.33	15.97	42.70	3.27	15.97	42.83	3.20	15.96	42.95
4.14	15.99	42.48	4.05	15.98	42.61	3.97	15.97	42.75	3.89	15.96	42.87	3.81	15.96	43.00	3.73	15.95	43.12
4.75	15.98	42.59	4.65	15.97	42.72	4.56	15.96	42.85	4.46	15.96	42.98	4.37	15.95	43.11	4.27	15.95	43.23
5.37	15.98	42.66	5.26	15.97	42.79	5.15	15.96	42.92	5.04	15.95	43.05	4.93	15.95	43.18	4.82	15.94	43.30
6.00	15.97	42.70	5.87	15.97	42.84	5.75	15.96	42.97	5.62	15.95	43.10	5.50	15.95	43.23	5.38	15.94	43.35
6.63	15.97	42.74	6.49	15.96	42.87	6.35	15.96	43.00	6.21	15.95	43.13	6.07	15.95	43.26	5.96	15.94	43.39
9.81	15.97	42.82	9.60	15.96	42.96	9.39	15.95	43.09	9.18	15.95	43.22	8.97	15.94	43.35	8.77	15.94	43.47
1.83	20.30	33.91	1.79	19.95	34.70	1.75	19.70	35.31	1.72	19.49	35.81	1.70	19.33	36.25	1.67	19.19	36.64
2.03	18.61	38.54	1.99	18.54	38.81	1.96	18.47	39.07	1.93	18.42	39.30	1.90	18.37	39.53	1.87	18.33	39.74
2.30	18.28	39.98	2.26	18.24	40.20	2.22	18.20	40.40	2.19	18.17	40.60	2.15	18.14	40.79	2.12	18.11	40.98
2.60	18.15	40.72	2.55	18.12	40.91	2.51	18.10	41.11	2.47	18.07	41.29	2.42	18.05	41.47	2.38	18.03	41.64
2.91	18.09	41.16	2.86	18.07	41.35	2.81	18.04	41.53	2.76	18.02	41.71	2.70	18.01	41.88	2.65	17.99	42.05
3.24	18.05	41.44	3.18	18.03	41.63	3.12	18.01	41.81	3.05	18.00	41.99	3.00	17.98	42.16	2.94	17.97	42.32
3.90	18.02	41.79	3.83	18.00	41.97	3.75	17.99	42.15	3.67	17.97	42.32	3.60	17.96	42.49	3.52	17.95	42.65
4.59	18.00	41.98	4.49	17.98	42.16	4.40	17.97	42.33	4.31	17.96	42.51	4.22	17.95	42.67	4.13	17.94	42.84
5.28	17.99	42.09	5.17	17.98	42.27	5.06	17.96	42.45	4.95	17.95	42.62	4.85	17.95	42.79	4.74	17.94	42.95
5.99	17.98	42.17	5.86	17.97	42.35	5.73	17.96	42.52	5.61	17.95	42.70	5.48	17.94	42.86	5.36	17.94	43.03
6.69	17.98	42.22	6.55	17.97	42.40	6.41	17.96	42.58	6.27	17.95	42.75	6.13	17.94	42.91	5.99	17.94	43.08
7.40	17.98	42.26	7.24	17.97	42.44	7.09	17.96	42.61	6.93	17.95	42.78	6.77	17.94	42.95	6.62	17.94	43.12
10.99	17.97	42.35	10.75	17.96	42.53	10.51	17.95	42.70	10.27	17.94	42.87	10.04	17.94	43.04	9.80	17.93	43.20
-	-	-	1.95	23.38	30.91	1.88	22.45	32.83	1.83	22.00	33.87	1.79	21.69	34.64	1.76	21.46	35.26
2.17	20.78	37.37	2.13	20.67	37.77	2.09	20.58	38.13	2.05	20.50	38.47	2.02	20.43	38.79	1.99	20.37	39.08
2.48	20.36	39.12	2.43	20.30	39.43	2.39	20.25	39.72	2.34	20.20	39.99	2.30	20.16	40.24	2.26	20.12	40.49
2.81	20.20	39.98	2.76	20.16	40.26	2.71	20.12	40.52	2.66	20.09	40.77	2.61	20.06	41.01	2.56	20.03	41.23
3.17	20.12	40.49	3.10	20.09	40.75	3.04	20.06	41.00	2.98	20.03	41.24	2.93	20.01	41.46	2.87	19.99	41.68
3.53	20.08	40.81	3.46	20.05	41.07	3.39	20.03	41.31	3.32	20.00	41.54	3.25	19.99	41.77	3.19	19.97	41.98
4.28	20.04	41.20	4.19	20.01	41.44	4.10	19.99	41.68	4.01	19.97	41.90	3.93	19.96	42.12	3.85	19.95	42.34
5.04	20.02	41.40	4.93	19.99	41.65	4.83	19.98	41.88	4.73	19.96	42.10	4.62	19.95	42.32	4.52	19.94	42.53
5.82	20.00	41.53	5.69	19.98	41.77	5.57	19.97	42.00	5.45	19.95	42.23	5.33	19.94	42.44	5.21	19.93	42.65
6.60	20.00	41.61	6.46	19.98	41.85	6.31	19.96	42.08	6.17	19.95	42.31	6.04	19.94	42.52	5.90	19.93	42.73
7.39	19.99	41.67	7.22	19.97	41.91	7.06	19.96	42.14	6.91	19.95	42.36	6.75	19.94	42.58	6.60	19.93	42.79
8.18	19.99	41.71	8.00	19.97	41.95	7.82	19.96	42.18	7.64	19.94	42.40	7.47	19.94	42.62	7.30	19.93	42.83
12.16	19.98	41.81	11.88	19.97	42.04	11.62	19.95	42.27	11.35	19.94	42.49	11.09	19.93	42.71	10.83	19.93	42.92
-	-	-	-	-	-	-	-	-	1.97	25.22	30.40	1.90	24.31	32.40	1.85	23.85	33.54
2.32	23.04	35.88	2.27	22.86	36.51	2.22	22.72	37.04	2.18	22.60	37.53	2.14	22.50	37.96	2.10	22.42	38.36
2.65	22.47	38.11	2.60	22.38	38.54	2.55	22.30	38.94	2.50	22.24	39.30	2.45	22.18	39.65	2.41	22.14	39.97
3.03	22.27	39.13	2.97	22.21	39.51	2.91	22.15	39.86	2.85	22.11	40.19	2.79	22.07	40.50	2.74	22.04	40.80
3.42	22.17	39.72	3.35	22.12	40.07	3.28	22.08	40.40	3.21	22.05	40.71	3.15	22.02	41.01	3.08	21.99	41.29
3.82	22.12	40.09	3.74	22.08	40.42	3.66	22.04	40.74	3.59	22.01	41.05	3.51	21.99	41.34	3.44	21.97	41.62
4.65	22.07	40.52	4.55	22.03	40.84	4.45	22.00	41.15	4.36	21.98	41.44	4.26	21.96	41.73	4.17	21.94	42.00
5.50	22.04	40.75	5.37	22.01	41.07	5.26	21.98	41.37	5.14	21.96	41.66	5.03	21.95	41.94	4.91	21.93	42.21
6.35	22.03	40.89	6.21	22.00	41.20	6.07	21.97	41.50	5.93	21.96	41.79	5.80	21.94	42.07	5.67	21.93	42.34
7.21	22.02	40.98	7.05	21.99	41.29	6.89	21.97	41.59	6.74	21.95	41.88	6.58	21.94	42.15	6.43	21.93	42.42
8.08	22.01	41.04	7.90	21.99	41.35	7.72	21.96	41.65	7.54	21.95	41.94	7.37	21.93	42.21	7.20	21.92	42.48
8.95	22.01	41.08	8.74	21.98	41.39	8.55	21.96	41.69	8.35	21.94	41.98	8.16	21.93	42.25	7.97	21.92	42.52
13.32	22.00	41.19	13.01	21.97	41.50	12.72	21.96	41.79	12.42	21.94	42.08	12.13	21.93	42.35	11.85	21.92	42.62
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.96	26.58	31.01
2.48	25.51	33.81	2.41	25.17	34.88	2.36	24.93	35.71	2.31	24.74	36.41	2.26	24.60	37.02	2.21	24.48	37.56
2.84	24.63	36.87	2.78	24.49	37.49	2.72	24.38	38.03	2.66	24.29	38.53	2.61	24.22	38.98	2.55	24.16	39.40
3.25	24.37	38.12	3.18	24.27	38.63	3.11	24.20	39.11	3.04	24.14	39.54	2.98	24.09	39.95	2.92	24.04	40.33
3.68	24.25	38.81	3.60	24.17	39.28	3.52	24.11	39.72	3.44	24.06	40.12	3.37	24.02	40.51	3.30	23.99	40.87
4.12	24.18	39.23	4.03	24.12	39.68	3.94	24.07	40.10	3.85	24.03	40.50	3.77	23.99	40.87	3.69	23.96	41.22
5.03	24.11	39.72	4.91	24.06	40.15	4.80	24.02	40.55	4.70	23.99	40.93	4.59	23.96	41.29	4.49	23.94	41.63
5.95	24.08	39.98	5.81	24.04	40.40	5.68	24.00	40.80	5.55	23.97	41.17	5.43	23.95	41.52	5.30	23.93	41.86
6.88	24.06	40.14	6.72	24.02	40.55	6.57	23.99	40.94	6.42	23.96	41.31	6.27	23.94	41.66	6.13	23.92	41.99
7.82	24.05	40.24	7.64	24.01	40.65	7.47	23.98	41.04	7.29	23.95	41.40	7.12	23.93	41.75	6.96	23.92	42.08
8.77	24.04	40.31	8.56	24.01	40.72	8.36	23.97	41.10	8.17	23.95	41.46	7.98	23.93	41.81	7.79	23.92	42.14
9.71	24.04	40.36	9.49	24.00	40.76	9.27	23.97	41.15	9.05	23.95	41.51	8.84	23.93	41.86	8.63	23.92	42.19
14.47	24.03	40.48	14.13	23.99	40.88	13.80	23.96	41.26	13.48	23.94	41.62	13.16	23.92	41.96	12.85	23.91	42.29
-	-	-	2.58	27.75	32.45	2.50	27.26	33.96	2.44	26.95	35.05	2.38	26.73	35.92	2.33	26.56	36.66
3.03	26.89	35.26	2.96	26.67	36.19	2.89	26.50	36.96	2.82	26.37	37.64	2.76	26.26	38.24	2.70	26.18	38.78
3.47	26.52	36.87	3.39	26.37	37.59	3.31	26.26	38.23	3.24	26.18	38.80	3.17	26.11	39.33	3.10	26.05	39.81
3.94	26.35	37.70	3.85	26.24	38.35	3.76	26.16	38.93	3.67	26.09	39.46	3.59	26.04	39.95	3.51	25.99	40.41
4.42	26.27	38.21	4.32	26.17	38.82	4.22	26.10	39.37	4.12	26.05	39.88	4.03	26.00	40.35	3.94	25.97	40.79
5.40	26.18	38.78	5.28	26.10	39.35	5.15	26.05	39.87	5.03	26.00	40.36	4.92	25.96	40.81	4.81	25.94	41.24
6.40	26.14	39.08	6.25	26.07	39.63	6.10	26.02	40.14	5.96	25.98	40.62	5.82	25.95	41.06	5.69	25.92	41.48
7.41	26.12	39.26	7.24	26.05	39.80	7.07	26.00	40.30	6.90	25.97	40.77	6.74	25.94	41.21	6.58	25.92	41.62
8.43	26.10	39.38	8.23	26.04	39.91	8.03	26.00	40.41	7.85	25.96	40.87	7.66	25.93	41.30	7.48	25.91	41.72
9.45	26.09	39.46	9.23	26.03	39.99	9.01	25.99	40.48	8.79	25.96	40.94	8.59	25.93	41.37	8.38	25.91	41.78
10.48	26.09	39.51	10.23	26.03	40.04	9.98	25.99	40.53	9.75	25.95	40.99	9.51	25.93	41.42	9.29	25.91	41.83
15.62	26.07	39.64	15.25	26.02	40.16	14.88	25.98	40.65	14.53	25.94	41.10	14.18	25.92	41.53	13.84	25.91	41.94
-	-	-	-	-	-	2.67	29.94	31.20	2.58	29.28	33.24	2.51	28.92	34.57	2.45	28.67	35.61
3.25	29.40	32.86	3.14	28.95	34.47	3.06	28.67	35.63	2.98	28.47	36.58	2.91	28.32	37.38	2.85	28.21	38.09
3.71	28.76	35.23	3.61	28.52	36.30	3.52	28.36	37.18	3.43	28.23	37.95	3.36	28.14	38.63	3.28	28.07	39.25
4.21	28.52	36.31	4.10	28.35	37.23	4.00	28.22	38.01	3.90	28.13	38.70	3.81	28.06	39.33	3.73	28.00	39.91
4.72	28.40	36.95	4.60	28.26	37.78	4.49	28.15	38.52	4.39	28.07	39.17	4.28	28.01	39.77	4.19	27.97	40.32
5.78	28.28	37.64	5.64	28.17	38.40	5.50	28.08	39.09	5.37	28.02	39.71	5.24	27.97	40.28	5.12	27.94	40.81
6.86	28.23	37.99	6.69	28.13	38.73	6.52	28.05	39.39	6.37	27.99	39.99	6.22	27.95	40.55	6.07	27.92	41.06
7.95	28.20	38.20	7.75	28.10	38.92	7.56	28.03	39.57	7.38	27.98	40.16	7.20	27.94	40.71	7.03	27.91	41.22
9.04	28.18	38.34	8.81	28.09	39.05	8.60	28.02	39.69	8.39	27.97	40.27	8.19	27.93	40.81	7.99	27.91	41.32
10.14	28.16	38.43	9.88	28.08	39.13	9.64	28.01	39.76	9.41	27.97	40.35	9.18	27.93	40.88	8.96	27.91	41.39
11.24	28.16	38.49	10.96	28.07	39.19	10.69	28.01	39.82	10.43	27.96	40.40	10.18	27.93	40.94	9.93	27.91	41.44
16.77	28.14	38.65	16.35	28.06	39.33	15.95	28.00	39.95	15.56	27.95	40.52	15.18	27.92	41.06	14.81	27.90	41.56
-	-	-	-	-	-	-	-	-	2.74	32.00	30.30	2.64	31.23	32.80	2.57	30.83	34.34
-	-	-	3.36	31.51	31.81	3.24	30.94	33.88	3.15	30.62	35.28	3.07	30.41	36.38	3.00	30.26	37.30

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(j) $\epsilon_p = 45°$; $\Gamma = 5°$; $\epsilon_r = 5.02°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
30	43.46	50.14	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	41.96	41.70	4.66	31.34	32.39	25.13	.2051	2.34
			8.0	-	-	-	-	-	-	-	-	41.52	40.60	5.21	31.00	33.66	31.46	.1774	2.47
			10.0	-	-	-	-	-	-	-	-	41.08	39.49	6.36	30.72	34.83	47.02	.1873	2.63
			12.0	-	-	-	-	-	-	-	-	41.18	38.99	7.54	30.60	35.38	66.18	.1813	2.72
			14.0	-	-	-	-	-	-	-	-	41.29	38.81	8.74	30.54	35.70	88.87	.1776	2.78
			16.0	-	-	-	-	-	-	-	-	41.36	38.40	9.94	30.50	35.89	115.1	.1751	2.82
			18.0	-	-	-	-	-	-	-	-	41.40	38.26	11.15	30.47	36.03	144.8	.1734	2.85
			20.0	-	-	-	-	-	-	-	-	41.43	38.16	12.36	30.46	36.12	178.0	.1721	2.87
			30.0	-	-	-	-	-	-	-	-	41.50	37.92	18.44	30.42	36.38	398.5	.1691	2.92
32	42.83	50.94	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	4.53	43.21	6.85	33.38	31.58	54.53	.1844	2.33
			12.0	-	-	-	-	-	-	-	-	4.00	42.40	8.09	33.10	32.64	76.22	.1794	2.43
			14.0	-	-	-	-	-	-	-	-	4.22	41.97	9.36	32.97	33.16	102.1	.1762	2.48
			16.0	-	-	-	-	-	-	-	-	4.34	41.71	10.65	32.89	33.48	132.0	.1740	2.52
			18.0	-	-	-	-	-	-	-	-	4.42	41.53	11.93	32.84	33.68	166.0	.1725	2.55
			20.0	-	-	-	-	-	-	-	-	4.48	41.41	13.23	32.81	33.83	204.0	.1714	2.57
			30.0	-	-	-	-	-	-	-	-	4.60	41.12	19.73	32.74	34.15	454.0	.1688	2.61
34	45.15	51.79	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	4.64	45.46	21.38	35.74	29.63	533.2	.1685	2.25
36	47.41	52.68	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	49.62	53.62	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	51.78	54.59	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	53.88	55.61	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(f) $\epsilon_p = 45°$; $\Gamma = 5°$; $\epsilon_r = 5.02°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
3.97	31.23	32.78	3.83	30.77	34.59	3.73	30.50	35.89	3.63	30.31	36.94	3.54	30.18	37.83	3.46	30.08	38.61
4.49	30.81	34.42	4.36	30.52	35.81	4.24	30.32	36.90	4.13	30.18	37.82	4.03	30.08	38.63	3.94	30.01	39.35
5.04	30.62	35.28	4.90	30.39	36.50	4.77	30.23	37.50	4.65	30.11	38.36	4.54	30.03	39.12	4.43	29.97	39.80
6.17	30.45	36.13	6.00	30.26	37.25	5.85	30.14	38.16	5.70	30.05	38.96	5.56	29.98	39.68	5.43	29.94	40.33
7.32	30.37	36.63	7.12	30.21	37.64	6.94	30.10	38.51	6.77	30.02	39.28	6.61	29.96	39.97	6.45	29.92	40.61
8.49	30.32	36.89	8.26	30.18	37.87	8.05	30.07	38.71	7.85	30.00	39.47	7.66	29.95	40.15	7.47	29.91	40.78
9.66	30.30	37.05	9.40	30.16	38.01	9.16	30.06	38.85	8.93	29.99	39.59	8.71	29.94	40.27	8.50	29.91	40.89
10.83	30.28	37.16	10.54	30.14	38.11	10.27	30.05	38.93	10.02	29.98	39.67	9.77	29.93	40.34	9.53	29.90	40.96
12.01	30.27	37.24	11.69	30.14	38.18	11.39	30.04	39.00	11.11	29.98	39.73	10.83	29.93	40.40	10.57	29.90	41.01
17.92	30.24	37.42	17.45	30.12	38.34	17.00	30.03	39.15	16.58	29.97	39.87	16.17	29.92	40.53	15.77	29.90	41.14
-	-	-	-	-	-	-	-	-	-	-	-	2.79	33.85	30.02	2.69	33.08	32.72
-	-	-	-	-	-	3.44	33.51	31.14	3.32	32.87	33.58	3.23	32.53	35.16	3.14	32.32	36.40
-	-	-	4.08	33.26	32.01	3.94	32.73	34.21	3.83	32.43	35.71	3.73	32.24	36.90	3.64	32.11	37.90
4.81	33.47	31.25	4.63	32.80	33.87	4.49	32.47	35.51	4.36	32.26	36.77	4.25	32.12	37.81	4.15	32.02	38.72
5.38	33.05	32.82	5.20	32.60	34.82	5.05	32.34	36.25	4.91	32.17	37.40	4.79	32.06	38.37	4.67	31.98	39.23
6.57	32.74	34.17	6.37	32.42	35.79	6.19	32.22	37.05	6.03	32.09	38.09	5.88	32.00	39.00	5.74	31.94	39.81
7.80	32.61	34.79	7.57	32.34	36.28	7.36	32.17	37.46	7.17	32.05	38.45	6.99	31.97	39.33	6.82	31.92	40.11
9.04	32.54	35.14	8.77	32.29	36.56	8.53	32.14	37.70	8.31	32.03	38.67	8.10	31.96	39.52	7.90	31.91	40.29
10.28	32.50	35.36	9.98	32.27	36.73	9.71	32.12	37.85	9.46	32.02	38.80	9.22	31.95	39.65	9.00	31.90	40.41
11.54	32.47	35.50	11.20	32.25	36.85	10.90	32.10	37.95	10.62	32.01	38.90	10.35	31.94	39.73	10.09	31.90	40.49
12.79	32.45	35.61	12.42	32.24	36.93	12.09	32.10	38.02	11.77	32.00	38.96	11.48	31.94	39.79	11.19	31.90	40.55
19.09	32.41	35.84	18.54	32.21	37.13	18.04	32.08	38.20	17.58	31.99	39.12	17.14	31.93	39.94	16.71	31.89	40.68
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.83	35.52	30.39
-	-	-	-	-	-	-	-	-	3.51	35.35	31.02	3.39	34.73	33.61	3.29	34.40	35.32
-	-	-	-	-	-	4.18	35.17	31.69	4.03	34.62	34.13	3.92	34.33	35.78	3.81	34.15	37.08
-	-	-	4.94	35.46	30.60	4.74	34.72	33.64	4.60	34.38	35.47	4.47	34.18	36.86	4.36	34.04	38.01
-	-	-	5.52	35.01	32.33	5.33	34.52	34.63	5.18	34.26	36.23	5.04	34.10	37.50	4.91	33.99	38.58
7.05	35.46	30.62	6.75	34.69	32.80	6.54	34.35	35.65	6.36	34.15	37.06	6.19	34.02	38.22	6.04	33.94	39.22
8.33	35.12	31.89	8.02	34.56	34.46	7.77	34.27	36.16	7.56	34.10	37.48	7.36	33.99	38.59	7.18	33.92	39.55
9.64	34.97	32.50	9.29	34.49	34.84	9.02	34.23	36.45	8.77	34.07	37.73	8.54	33.97	38.81	8.33	33.91	39.75
10.96	34.89	32.85	10.58	34.45	35.07	10.27	34.21	36.63	9.99	34.06	37.88	9.73	33.96	38.95	9.49	33.90	39.88
12.29	34.84	33.08	11.87	34.42	35.22	11.52	34.19	36.75	11.21	34.05	37.99	10.92	33.96	39.04	10.64	33.90	39.97
13.62	34.80	33.24	13.16	34.40	35.33	12.78	34.18	36.84	12.43	34.04	38.06	12.11	33.95	39.11	11.81	33.90	40.03
20.32	34.73	33.60	19.65	34.36	35.58	19.08	34.15	37.05	18.57	34.02	38.24	18.09	33.94	39.27	17.63	33.89	40.18
-	-	-	-	-	-	-	-	-	-	-	-	3.55	37.07	31.44	3.44	36.53	34.00
-	-	-	-	-	-	-	-	-	4.24	36.96	31.89	4.10	36.46	34.38	3.99	36.20	36.11
-	-	-	-	-	-	5.02	37.26	30.65	4.83	36.57	33.78	4.69	36.26	35.71	4.56	36.08	37.19
-	-	-	-	-	-	5.63	36.87	32.32	5.44	36.40	34.76	5.28	36.16	36.47	5.15	36.01	37.84
-	-	-	7.19	37.33	30.37	6.90	36.57	33.79	6.69	36.25	35.79	6.50	36.06	37.30	6.33	35.95	38.55
-	-	-	8.51	37.02	31.66	8.20	36.45	34.46	7.95	36.18	36.30	7.74	36.02	37.73	7.54	35.93	38.93
-	-	-	9.85	36.87	32.28	9.51	36.39	34.84	9.23	36.14	36.59	8.98	36.00	37.98	8.75	35.91	39.15
-	-	-	11.21	36.80	32.65	10.82	36.35	35.08	10.51	36.12	36.78	10.23	35.99	38.14	9.96	35.91	39.29
-	-	-	12.57	36.75	32.89	12.15	36.33	35.23	11.79	36.11	36.90	11.48	35.98	38.24	11.18	35.90	39.38
-	-	-	13.94	36.71	33.05	13.47	36.31	35.34	13.08	36.10	36.99	12.73	35.97	38.32	12.40	35.90	39.45
21.91	37.77	28.79	20.80	36.64	33.42	20.12	36.27	35.60	19.55	36.07	37.20	19.02	35.96	38.50	18.53	35.89	39.61
-	-	-	-	-	-	-	-	-	-	-	-	3.77	40.13	26.79	3.59	38.74	32.28
-	-	-	-	-	-	-	-	-	4.53	40.18	26.62	4.30	38.69	32.53	4.16	38.28	34.96
-	-	-	-	-	-	-	-	-	5.08	38.94	31.29	4.90	38.38	34.27	4.76	38.12	36.23
-	-	-	-	-	-	-	-	-	5.71	38.64	32.77	5.53	38.25	35.22	5.38	38.04	36.98
-	-	-	-	-	-	7.29	39.04	30.86	7.02	38.40	34.15	6.81	38.12	36.21	6.62	37.97	37.79
-	-	-	-	-	-	8.64	38.80	31.99	8.36	38.30	34.80	8.10	38.07	36.71	7.89	37.94	38.21
-	-	-	-	-	-	10.02	38.68	32.57	9.68	38.25	35.17	9.40	38.04	37.00	9.16	37.92	38.46
-	-	-	-	-	-	11.40	38.62	32.91	11.03	38.22	35.40	10.71	38.02	37.18	10.43	37.91	38.62
-	-	-	13.57	40.11	26.87	12.79	38.58	33.14	12.38	38.20	35.56	12.03	38.01	37.31	11.71	37.91	38.73
-	-	-	14.94	39.75	28.08	14.19	38.55	33.30	13.73	38.19	35.67	13.34	38.00	37.40	12.99	37.90	38.80
-	-	-	22.17	39.40	29.36	21.18	38.49	33.65	20.51	38.16	35.92	19.94	37.99	37.60	19.42	37.89	38.98
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.75	41.13	29.72
-	-	-	-	-	-	-	-	-	-	-	-	4.50	41.16	29.62	4.34	40.41	33.51
-	-	-	-	-	-	-	-	-	-	-	-	5.12	40.60	32.34	4.96	40.19	35.08
-	-	-	-	-	-	-	-	-	6.01	41.20	29.45	5.77	40.39	33.61	5.60	40.09	35.97
-	-	-	-	-	-	-	-	-	7.36	40.69	31.83	7.11	40.21	34.86	6.91	39.99	36.91
-	-	-	-	-	-	-	-	-	8.74	40.52	32.78	8.46	40.14	35.47	8.23	39.96	37.39
-	-	-	-	-	-	10.65	41.60	27.85	10.14	40.44	33.29	9.83	40.10	35.82	9.55	39.94	37.67
-	-	-	-	-	-	12.08	41.32	28.93	11.55	40.39	33.60	11.19	40.08	36.04	10.89	39.92	37.85
-	-	-	-	-	-	13.53	41.19	29.48	12.96	40.36	33.80	12.57	40.06	36.19	12.22	39.92	37.97
-	-	-	-	-	-	14.99	41.11	29.83	14.38	40.34	33.95	13.94	40.05	36.29	13.56	39.91	38.06
-	-	-	-	-	-	22.34	40.95	30.54	21.48	40.29	34.28	20.84	40.03	36.53	20.28	39.90	38.26
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.51	42.61	31.57
-	-	-	-	-	-	-	-	-	-	-	-	5.36	43.07	29.24	5.16	42.29	33.64
-	-	-	-	-	-	-	-	-	-	-	-	6.03	42.66	31.34	5.83	42.15	34.74
-	-	-	-	-	-	-	-	-	7.79	43.68	26.72	7.41	42.37	33.10	7.19	42.03	35.87
-	-	-	-	-	-	-	-	-	9.18	43.04	29.41	8.82	42.26	33.90	8.56	41.98	36.43
-	-	-	-	-	-	-	-	-	10.63	42.84	30.37	10.24	42.20	34.34	9.95	41.96	36.75
-	-	-	-	-	-	-	-	-	12.10	42.74	30.90	11.67	42.17	34.62	11.33	41.94	36.96
-	-	-	-	-	-	-	-	-	13.58	42.68	31.23	13.10	42.15	34.80	12.73	41.93	37.10
-	-	-	-	-	-	-	-	-	15.06	42.64	31.45	14.54	42.13	34.91	14.12	41.93	37.19
-	-	-	-	-	-	-	-	-	22.48	42.55	31.95	21.73	42.10	35.22	21.11	41.91	37.42

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(k) $\epsilon_p = 45°$; $\Gamma = 10°$; $\epsilon_r = 10.16°$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	2.76	45.58	3.0	45.54	21.11	1.08	2.10	44.81	1.21	.8924	2.85	45.56	20.94	1.07	2.10	44.82	1.17	.8918	2.89
			4.0	45.56	16.00	1.10	2.03	45.04	1.27	.8673	3.78	45.57	15.83	1.09	2.03	45.04	1.22	.8662	3.85
			5.0	45.56	13.02	1.13	2.01	45.15	1.34	.8416	4.68	45.57	12.86	1.11	2.01	45.16	1.28	.8398	4.79
			6.0	45.57	11.06	1.15	1.99	45.23	1.41	.8163	5.57	45.57	10.90	1.13	1.99	45.23	1.34	.8138	5.72
			7.0	45.57	9.68	1.18	1.99	45.28	1.48	.7918	6.43	45.57	9.52	1.16	1.99	45.28	1.40	.7885	6.64
			8.0	45.57	8.65	1.20	1.98	45.31	1.56	.7684	7.27	45.57	8.49	1.18	1.98	45.32	1.46	.7642	7.54
			10.0	45.57	7.23	1.26	1.98	45.36	1.73	.7245	8.90	45.57	7.06	1.23	1.98	45.37	1.60	.7182	9.31
			12.0	45.57	6.29	1.31	1.98	45.40	1.91	.6845	10.46	45.57	6.12	1.28	1.97	45.40	1.74	.6759	11.02
			14.0	45.57	5.63	1.37	1.97	45.42	2.11	.6482	11.94	45.57	5.45	1.33	1.97	45.43	1.90	.6371	12.69
			16.0	45.57	5.14	1.43	1.97	45.44	2.32	.6153	13.36	45.57	4.96	1.38	1.97	45.44	2.07	.6016	14.31
			18.0	45.57	4.77	1.50	1.97	45.45	2.55	.5855	14.70	45.57	4.58	1.44	1.97	45.45	2.25	.5692	15.88
			20.0	45.57	4.47	1.56	1.97	45.46	2.79	.5586	15.97	45.57	4.29	1.50	1.97	45.46	2.44	.5395	17.39
			30.0	45.57	3.64	1.90	1.97	45.49	4.28	.4578	21.40	45.57	3.43	1.80	1.97	45.49	3.59	.4253	24.23
4	5.54	45.33	3.0	45.19	22.90	1.17	4.21	43.70	1.45	.8007	2.70	45.25	22.51	1.15	4.20	43.74	1.37	.7985	2.79
			4.0	45.25	17.66	1.21	4.07	44.18	1.59	.7595	3.57	45.29	17.30	1.19	4.06	44.21	1.48	.7555	3.70
			5.0	45.27	14.66	1.27	4.01	44.42	1.75	.7186	4.39	45.30	14.31	1.24	4.01	44.45	1.61	.7125	4.59
			6.0	45.28	12.72	1.32	3.99	44.57	1.93	.6804	5.17	45.31	12.36	1.28	3.98	44.60	1.76	.6719	5.45
			7.0	45.29	11.36	1.38	3.97	44.67	2.13	.6452	5.91	45.31	10.99	1.34	3.97	44.70	1.91	.6342	6.29
			8.0	45.29	10.36	1.44	3.96	44.75	2.34	.6130	6.62	45.31	9.99	1.39	3.96	44.77	2.08	.5995	7.10
			10.0	45.29	9.00	1.56	3.95	44.84	2.81	.5572	7.93	45.32	8.61	1.50	3.95	44.87	2.45	.5382	8.64
			12.0	45.30	8.13	1.70	3.95	44.91	3.35	.5113	9.10	45.32	7.73	1.61	3.95	44.93	2.87	.4868	10.08
			14.0	45.30	7.53	1.83	3.95	44.95	3.96	.4736	10.16	45.32	7.12	1.73	3.95	44.98	3.34	.4437	11.42
			16.0	45.30	7.10	1.98	3.95	44.98	4.64	.4425	11.10	45.32	6.67	1.86	3.94	45.01	3.87	.4076	12.67
			18.0	45.30	6.78	2.13	3.94	45.00	5.40	.4168	11.93	45.32	6.34	1.99	3.94	45.03	4.45	.3773	13.82
			20.0	45.30	6.54	2.28	3.94	45.02	6.24	.3954	12.67	45.32	6.09	2.12	3.94	45.05	5.09	.3517	14.88
			30.0	45.30	5.89	3.08	3.94	45.06	11.61	.3299	15.26	45.32	5.41	2.83	3.94	45.09	9.17	.2708	18.96
6	8.35	45.15	3.0	44.81	24.84	1.26	6.35	42.52	1.74	.7225	2.56	44.96	24.19	1.23	6.31	42.63	1.60	.7181	2.69
			4.0	44.97	19.48	1.33	6.11	43.30	1.97	.6721	3.37	45.06	18.88	1.29	6.09	43.38	1.79	.6640	3.56
			5.0	45.02	16.47	1.42	6.02	43.68	2.26	.6237	4.10	45.09	15.89	1.37	6.01	43.75	2.02	.6117	4.39
			6.0	45.04	14.55	1.51	5.98	43.91	2.59	.5805	4.79	45.10	13.96	1.45	5.97	43.97	2.28	.5645	5.19
			7.0	45.05	13.23	1.60	5.96	44.06	2.96	.5427	5.42	45.11	12.63	1.53	5.95	44.12	2.57	.5225	5.94
			8.0	45.06	12.28	1.70	5.95	44.16	3.37	.5097	6.00	45.11	11.66	1.62	5.94	44.23	2.88	.4854	6.66
			10.0	45.07	11.01	1.91	5.93	44.30	4.31	.4564	7.03	45.12	10.36	1.80	5.93	44.37	3.61	.4262	7.97
			12.0	45.07	10.22	2.13	5.93	44.39	5.42	.4163	7.89	45.12	9.55	1.99	5.92	44.46	4.46	.3769	9.15
			14.0	45.07	9.69	2.36	5.92	44.45	6.70	.3858	8.60	45.12	9.00	2.19	5.92	44.52	5.43	.3403	10.18
			16.0	45.08	9.32	2.59	5.92	44.49	8.16	.3624	9.20	45.12	8.62	2.40	5.92	44.56	6.54	.3116	11.09
			18.0	45.08	9.06	2.83	5.92	44.51	9.80	.3442	9.69	45.12	8.34	2.61	5.91	44.59	7.78	.2889	11.89
			20.0	45.08	8.86	3.08	5.92	44.53	11.62	.3299	10.11	45.12	8.13	2.83	5.91	44.61	9.16	.2709	12.58
			30.0	45.08	8.36	4.36	5.91	44.59	23.53	.2903	11.37	45.12	7.59	3.96	5.91	44.67	18.14	.2198	14.90
8	11.17	45.04	3.0	44.40	26.97	1.36	8.52	41.23	2.07	.6555	2.42	44.69	25.99	1.31	8.44	41.45	1.85	.6487	2.58
			4.0	44.71	21.44	1.46	8.16	42.37	2.42	.6012	3.17	44.86	20.57	1.41	8.12	42.53	2.14	.5885	3.42
			5.0	44.80	18.44	1.58	8.04	42.90	2.88	.5505	3.83	44.93	17.58	1.51	8.01	43.04	2.49	.5321	4.20
			6.0	44.84	16.56	1.71	7.98	43.20	3.41	.5072	4.43	44.96	15.69	1.62	7.96	43.34	2.91	.4832	4.92
			7.0	44.86	15.29	1.85	7.95	43.40	4.01	.4709	4.95	44.97	14.40	1.74	7.93	43.54	3.37	.4415	5.59
			8.0	44.87	14.38	1.99	7.93	43.54	4.69	.4407	5.43	44.98	13.48	1.87	7.92	43.68	3.89	.4062	6.22
			10.0	44.89	13.20	2.28	7.92	43.72	6.28	.3945	6.21	44.98	12.27	2.13	7.90	43.86	5.10	.3512	7.32
			12.0	44.90	12.49	2.60	7.91	43.83	8.18	.3621	6.83	44.99	11.53	2.40	7.89	43.97	6.55	.3115	8.25
			14.0	44.90	12.03	2.92	7.90	43.90	10.40	.3389	7.31	44.99	11.05	2.68	7.89	44.04	8.23	.2825	9.03
			16.0	44.90	11.72	3.25	7.90	43.94	12.95	.3219	7.69	44.99	10.71	2.97	7.89	44.09	10.15	.2609	9.67
			18.0	44.90	11.49	3.59	7.89	43.98	15.83	.3092	7.99	44.99	10.47	3.27	7.89	44.12	12.33	.2445	10.21
			20.0	44.91	11.33	3.93	7.89	44.00	19.05	.2995	8.23	44.99	10.30	3.58	7.89	44.15	14.75	.2319	10.65
			30.0	44.91	10.92	5.68	7.89	44.06	40.12	.2741	8.89	44.99	9.86	5.13	7.88	44.21	30.59	.1983	12.01
10	14.00	45.00	3.0	43.89	29.34	1.47	10.77	39.74	2.45	.5975	2.28	44.40	27.94	1.41	10.61	40.18	2.14	.5885	2.48
			4.0	44.45	23.57	1.60	10.23	41.35	2.95	.5436	2.98	44.74	22.38	1.52	10.16	41.64	2.54	.5261	3.28
			5.0	44.61	20.56	1.76	10.06	42.05	3.61	.4939	3.57	44.83	19.39	1.66	10.01	42.30	3.05	.4691	4.00
			6.0	44.67	18.72	1.93	9.99	42.44	4.39	.4530	4.08	44.86	17.54	1.81	9.95	42.69	3.65	.4215	4.65
			7.0	44.71	17.49	2.10	9.95	42.69	5.29	.4201	4.52	44.88	16.30	1.96	9.92	42.93	4.34	.3825	5.25
			8.0	44.73	16.64	2.29	9.93	42.87	6.31	.3937	4.90	44.90	15.43	2.13	9.90	43.10	5.12	.3507	5.78
			10.0	44.75	15.55	2.68	9.90	43.08	8.73	.3552	5.50	44.91	14.30	2.47	9.88	43.32	6.95	.3033	6.69
			12.0	44.76	14.90	3.09	9.89	43.20	11.66	.3296	5.94	44.91	13.63	2.83	9.87	43.45	9.16	.2709	7.42
			14.0	44.77	14.49	3.50	9.88	43.28	15.11	.3120	6.26	44.92	13.20	3.20	9.87	43.53	11.75	.2482	7.99
			16.0	44.78	14.22	3.93	9.88	43.33	19.07	.2994	6.51	44.92	12.90	3.57	9.86	43.58	14.73	.2319	8.45
			18.0	44.78	14.02	4.36	9.88	43.37	23.55	.2903	6.70	44.92	12.70	3.96	9.86	43.62	18.09	.2199	8.81
			20.0	44.78	13.88	4.80	9.87	43.40	28.55	.2835	6.84	44.92	12.54	4.34	9.86	43.65	21.85	.2108	9.11
			30.0	44.79	13.53	7.02	9.87	43.46	61.42	.2661	7.23	44.92	12.17	6.33	9.86	43.72	46.51	.1875	9.94
12	16.82	45.03	3.0	43.16	32.07	1.59	13.18	37.90	2.92	.5462	2.13	44.08	30.05	1.50	12.83	38.75	2.47	.5359	2.36
			4.0	44.18	25.88	1.75	12.33	40.21	3.56	.4966	2.78	44.63	24.29	1.65	12.21	40.69	2.99	.4744	3.13
			5.0	44.43	22.82	1.94	12.11	41.11	4.46	.4499	3.31	44.77	21.31	1.82	12.02	41.53	3.68	.4191	3.80
			6.0	44.53	21.02	2.15	12.01	41.60	5.54	.4126	3.75	44.83	19.60	2.00	11.95	41.99	4.51	.3744	4.39
			7.0	44.59	19.84	2.38	11.96	41.91	6.81	.3836	4.11	44.85	18.31	2.20	11.91	42.29	5.47	.3390	4.91
			8.0	44.62	19.03	2.61	11.93	42.11	8.26	.3610	4.41	44.87	17.48	2.40	11.88	42.49	6.57	.3110	5.36
			10.0	44.65	18.01	3.09	11.90	42.36	11.71	.3293	4.87	44.89	16.43	2.83	11.86	42.74	9.16	.2709	6.11
			12.0	44.67	17.42	3.59	11.88	42.50	15.89	.3090	5.19	44.90	15.81	3.27	11.85	42.88	12.31	.2446	6.67
			14.0	44.68	17.05	4.10	11.87	42.59	20.83	.2954	5.42	44.91	15.42	3.72	11.84	42.97	16.00	.2268	7.10
			16.0	44.69	16.80	4.63	11.87	42.65	26.51	.2859	5.58	44.91	15.16	4.18	11.84	43.03	20.26	.2143	7.42
			18.0	44.70	16.63	5.15	11.86	42.69	32.98	.2792	5.71	44.91	14.98	4.65	11.84	43.07	25.08	.2052	7.68
			20.0	44.70	16.51	5.68	11.86	42.72	40.14	.2741	5.80	44.91	14.84	5.12	11.83	43.10	30.46	.1984	7.87
			30.0	44.71	16.20	8.37	11.86	42.79	87.41	.2616	6.04	44.92	14.52	7.52	11.83	43.18	65.83	.1814	8.41
14	19.64	45.13	3.0	41.79	35.58	1.75	16.02	35.18	3.56	.4968	1.95	44.66	32.40	1.61	15.15	37.06	2.85	.4892	2.25
			4.0	43.84	28.40	1.90	14.50	38.87	4.28	.4578	2.58	44.55	26.33	1.77	14.27	39.66	3.50	.4315	2.98
			5.0	44.24	25.28	2.13	14.18	40.04	5.45	.4153	3.06	44.75	23.33	1.98	14.04	40.69	4.41	.3792	3.60
			6.0	44.40	23.47	2.39	14.06	40.64	6.89	.3821	3.44	44.84	21.56	2.20	13.95	41.24	5.50	.3433	4.13
			7.0	44.48	22.32	2.66	13.99	41.01	8.59	.3569	3.74	44.88	20.41	2.44	13.90	41.59	6.78	.3065	4.58
			8.0	44.53	21.54	2.94	13.95	41.25	10.54	.3377	3.98	44.90	19.62	2.69	13.87	41.82	8.25	.2822	4.96
			10.0	44.58	20.58	3.52	13.91	41.54	15.21	.3116	4.33	44.93	18.63	3.19	13.84	42.10	11.74	.2483	5.57
			12.0	44.61	20.03	4.11	13.89	41.70	20.88	.2953	4.57	44.94	18.06	3.72	13.83	42.26	15.98	.2269	6.01
			14.0	44.63	19.69	4.72	13.88	41.80	27.58	.2846	4.73	44.95	17.71	4.26	13.82	42.36	20.98	.2126	6.33
			16.0	44.64	19.47	5.33	13.87	41.87	35.31	.2773	4.84	44.96	17.47	4.80	13.82	42.43	26.75	.2028	6.57
			18.0	44.64	19.31	5.95	13.86	41.91	44.06	.2721	4.93	44.96	17.30	5.35	13.81	42.47	33.28	.1957	6.75
			20.0	44.65	19.20	6.58	13.86	41.94	53.84	.2683	4.99	44.96	17.18	5.91	13.81	42.51	40.57	.1905	6.88
			30.0	44.66	18.92	9.73	13.85	42.02	118.2	.2589	5.15	44.97	16.90	8.72	13.81	42.59	88.52	.1776	7.25

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(k) $\epsilon_p = 45°$; $\Gamma = 10°$, $\epsilon_r = 10.16°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.07	2.10	44.82	1.07	2.10	44.83	1.07	2.10	44.83	1.07	2.10	44.83	1.06	2.09	44.83	1.06	2.09	44.83
1.09	2.03	45.05	1.09	2.03	45.05	1.09	2.03	45.05	1.08	2.03	45.05	1.08	2.03	45.05	1.08	2.03	45.05
1.11	2.01	45.16	1.11	2.01	45.16	1.11	2.01	45.16	1.10	2.01	45.17	1.10	2.01	45.17	1.10	2.01	45.17
1.13	1.99	45.23	1.13	1.99	45.24	1.13	1.99	45.24	1.12	1.99	45.24	1.12	1.99	45.24	1.12	1.99	45.24
1.15	1.99	45.28	1.15	1.99	45.29	1.15	1.99	45.29	1.14	1.99	45.29	1.14	1.99	45.29	1.14	1.99	45.29
1.18	1.98	45.32	1.17	1.98	45.32	1.17	1.98	45.32	1.16	1.98	45.32	1.16	1.98	45.32	1.16	1.98	45.33
1.22	1.98	45.37	1.22	1.98	45.37	1.21	1.98	45.37	1.21	1.98	45.37	1.20	1.98	45.37	1.20	1.98	45.38
1.27	1.97	45.40	1.27	1.97	45.40	1.26	1.97	45.41	1.25	1.97	45.41	1.25	1.97	45.41	1.24	1.97	45.41
1.32	1.97	45.43	1.32	1.97	45.43	1.31	1.97	45.43	1.30	1.97	45.43	1.29	1.97	45.43	1.29	1.97	45.43
1.38	1.97	45.44	1.37	1.97	45.44	1.36	1.97	45.45	1.35	1.97	45.45	1.34	1.97	45.45	1.33	1.97	45.45
1.43	1.97	45.46	1.42	1.97	45.46	1.41	1.97	45.46	1.40	1.97	45.46	1.39	1.97	45.46	1.38	1.97	45.46
1.48	1.97	45.47	1.47	1.97	45.47	1.46	1.97	45.47	1.45	1.97	45.47	1.44	1.97	45.47	1.42	1.97	45.47
1.78	1.97	45.50	1.76	1.97	45.50	1.74	1.97	45.50	1.72	1.97	45.50	1.70	1.97	45.50	1.68	1.97	45.50
1.14	4.20	43.75	1.14	4.19	43.76	1.14	4.19	43.76	1.13	4.19	43.77	1.13	4.19	43.78	1.13	4.18	43.78
1.19	4.06	44.22	1.18	4.06	44.22	1.18	4.06	44.23	1.17	4.05	44.23	1.17	4.05	44.24	1.16	4.05	44.24
1.23	4.01	44.46	1.22	4.01	44.46	1.22	4.01	44.47	1.21	4.00	44.47	1.21	4.00	44.48	1.20	4.00	44.48
1.28	3.98	44.60	1.27	3.98	44.61	1.26	3.98	44.61	1.26	3.98	44.62	1.25	3.98	44.62	1.24	3.98	44.63
1.33	3.97	44.70	1.32	3.97	44.71	1.31	3.97	44.71	1.30	3.97	44.72	1.30	3.97	44.72	1.29	3.97	44.73
1.38	3.96	44.78	1.37	3.96	44.78	1.36	3.96	44.79	1.35	3.96	44.79	1.34	3.96	44.80	1.33	3.96	44.80
1.49	3.95	44.88	1.47	3.95	44.88	1.46	3.95	44.89	1.45	3.95	44.89	1.44	3.95	44.90	1.43	3.95	44.90
1.60	3.95	44.94	1.58	3.95	44.94	1.57	3.95	44.95	1.55	3.95	44.95	1.54	3.95	44.96	1.52	3.95	44.96
1.72	3.94	44.98	1.70	3.94	44.99	1.68	3.94	44.99	1.66	3.94	45.00	1.64	3.94	45.00	1.63	3.94	45.01
1.84	3.94	45.01	1.82	3.94	45.02	1.80	3.94	45.02	1.77	3.94	45.03	1.75	3.94	45.03	1.73	3.94	45.04
1.96	3.94	45.04	1.94	3.94	45.04	1.92	3.94	45.05	1.89	3.94	45.05	1.87	3.94	45.06	1.84	3.94	45.06
2.09	3.94	45.05	2.07	3.94	45.06	2.04	3.94	45.06	2.01	3.94	45.07	1.98	3.94	45.07	1.96	3.94	45.08
2.78	3.94	45.10	2.74	3.94	45.11	2.69	3.94	45.11	2.65	3.94	45.12	2.60	3.94	45.12	2.56	3.94	45.13
1.22	6.30	42.64	1.22	6.30	42.66	1.21	6.29	42.68	1.21	6.29	42.70	1.20	6.28	42.71	1.20	6.27	42.73
1.29	6.08	43.39	1.28	6.08	43.40	1.27	6.08	43.42	1.27	6.07	43.43	1.26	6.07	43.44	1.25	6.07	43.46
1.36	6.01	43.76	1.35	6.00	43.77	1.34	6.00	43.79	1.33	6.00	43.80	1.32	6.00	43.81	1.32	6.00	43.82
1.44	5.97	43.99	1.43	5.97	44.00	1.41	5.97	44.01	1.40	5.97	44.02	1.39	5.96	44.03	1.38	5.96	44.05
1.52	5.95	44.14	1.50	5.95	44.15	1.49	5.95	44.16	1.48	5.95	44.17	1.47	5.95	44.18	1.45	5.94	44.20
1.60	5.94	44.24	1.59	5.94	44.26	1.57	5.94	44.27	1.56	5.94	44.28	1.54	5.93	44.29	1.53	5.93	44.30
1.78	5.93	44.39	1.76	5.93	44.40	1.74	5.92	44.41	1.72	5.92	44.42	1.70	5.92	44.44	1.68	5.92	44.45
1.97	5.92	44.47	1.94	5.92	44.49	1.92	5.92	44.50	1.89	5.92	44.51	1.87	5.92	44.53	1.84	5.92	44.54
2.16	5.92	44.53	2.13	5.92	44.55	2.10	5.92	44.56	2.07	5.91	44.57	2.04	5.91	44.59	2.01	5.91	44.60
2.36	5.91	44.57	2.33	5.91	44.59	2.29	5.91	44.60	2.26	5.91	44.61	2.22	5.91	44.63	2.19	5.91	44.64
2.57	5.91	44.60	2.53	5.91	44.62	2.49	5.91	44.63	2.45	5.91	44.65	2.41	5.91	44.66	2.37	5.91	44.67
2.78	5.91	44.63	2.74	5.91	44.64	2.69	5.91	44.65	2.64	5.91	44.67	2.60	5.91	44.68	2.55	5.91	44.70
3.89	5.91	44.68	3.82	5.91	44.70	3.74	5.91	44.71	3.67	5.91	44.73	3.60	5.91	44.74	3.53	5.91	44.76
1.31	8.43	41.49	1.30	8.41	41.53	1.29	8.40	41.56	1.28	8.39	41.60	1.28	8.38	41.63	1.27	8.37	41.67
1.40	8.11	42.55	1.39	8.11	42.58	1.38	8.10	42.61	1.37	8.09	42.63	1.36	8.09	42.66	1.35	8.08	42.69
1.50	8.01	43.06	1.48	8.00	43.09	1.47	8.00	43.11	1.46	7.99	43.14	1.45	7.99	43.16	1.43	7.98	43.18
1.61	7.96	43.37	1.59	7.95	43.39	1.58	7.95	43.41	1.56	7.95	43.44	1.55	7.94	43.46	1.53	7.94	43.48
1.72	7.93	43.56	1.70	7.93	43.59	1.69	7.93	43.61	1.67	7.92	43.64	1.65	7.92	43.66	1.63	7.92	43.68
1.84	7.92	43.70	1.82	7.91	43.73	1.80	7.91	43.75	1.78	7.91	43.78	1.76	7.91	43.80	1.74	7.91	43.82
2.10	7.90	43.89	2.07	7.90	43.91	2.04	7.90	43.93	2.01	7.90	43.96	1.98	7.89	43.98	1.96	7.89	44.01
2.36	7.89	43.99	2.33	7.89	44.02	2.29	7.89	44.05	2.26	7.89	44.07	2.22	7.89	44.09	2.19	7.89	44.12
2.64	7.89	44.07	2.60	7.89	44.09	2.55	7.89	44.12	2.51	7.89	44.14	2.47	7.88	44.17	2.43	7.88	44.19
2.92	7.89	44.11	2.87	7.89	44.14	2.83	7.88	44.17	2.78	7.88	44.19	2.73	7.88	44.22	2.68	7.88	44.24
3.22	7.89	44.15	3.16	7.88	44.18	3.10	7.88	44.20	3.05	7.88	44.23	2.99	7.88	44.25	2.93	7.88	44.28
3.51	7.88	44.18	3.45	7.88	44.20	3.38	7.88	44.23	3.32	7.88	44.26	3.26	7.88	44.28	3.19	7.88	44.31
5.03	7.88	44.24	4.93	7.88	44.27	4.84	7.88	44.29	4.74	7.88	44.32	4.64	7.88	44.35	4.54	7.88	44.38
1.39	10.58	40.25	1.38	10.55	40.32	1.37	10.53	40.39	1.36	10.51	40.45	1.35	10.49	40.52	1.34	10.46	40.58
1.51	10.14	41.69	1.50	10.13	41.74	1.48	10.12	41.78	1.47	10.11	41.83	1.46	10.10	41.88	1.44	10.09	41.92
1.64	10.01	42.35	1.63	10.00	42.39	1.61	9.99	42.43	1.59	9.98	42.47	1.58	9.98	42.52	1.56	9.97	42.56
1.79	9.95	42.73	1.77	9.94	42.77	1.75	9.93	42.81	1.73	9.93	42.85	1.71	9.92	42.89	1.69	9.92	42.93
1.94	9.91	42.97	1.92	9.91	43.02	1.89	9.91	43.06	1.87	9.90	43.10	1.84	9.90	43.14	1.82	9.89	43.18
2.10	9.90	43.15	2.07	9.89	43.19	2.04	9.89	43.23	2.01	9.88	43.27	1.98	9.88	43.31	1.96	9.88	43.35
2.43	9.88	43.36	2.39	9.87	43.40	2.36	9.87	43.44	2.32	9.87	43.49	2.28	9.87	43.53	2.25	9.86	43.57
2.78	9.87	43.49	2.73	9.86	43.53	2.69	9.86	43.57	2.64	9.86	43.62	2.60	9.86	43.66	2.55	9.86	43.70
3.14	9.86	43.57	3.08	9.86	43.61	3.03	9.86	43.66	2.97	9.86	43.70	2.92	9.85	43.74	2.87	9.85	43.78
3.51	9.86	43.63	3.44	9.86	43.67	3.38	9.86	43.71	3.32	9.85	43.75	3.25	9.85	43.80	3.19	9.85	43.84
3.88	9.86	43.66	3.81	9.86	43.71	3.74	9.85	43.75	3.66	9.85	43.79	3.59	9.85	43.84	3.52	9.85	43.88
4.26	9.86	43.69	4.18	9.85	43.74	4.10	9.85	43.78	4.01	9.85	43.82	3.93	9.85	43.87	3.85	9.85	43.91
6.20	9.85	43.76	6.07	9.85	43.81	5.94	9.85	43.85	5.82	9.85	43.90	5.69	9.85	43.94	5.57	9.85	43.98
1.49	12.78	38.88	1.47	12.73	39.00	1.46	12.69	39.12	1.44	12.65	39.23	1.43	12.61	39.34	1.42	12.58	39.44
1.63	12.19	40.78	1.61	12.17	40.85	1.59	12.15	40.93	1.58	12.13	41.00	1.56	12.12	41.08	1.54	12.10	41.15
1.80	12.01	41.60	1.77	12.00	41.67	1.75	11.99	41.73	1.73	11.98	41.80	1.71	11.97	41.86	1.69	11.96	41.93
1.98	11.94	42.06	1.95	11.93	42.13	1.92	11.92	42.19	1.90	11.91	42.25	1.87	11.90	42.32	1.85	11.90	42.38
2.17	11.90	42.35	2.14	11.89	42.42	2.10	11.88	42.48	2.07	11.88	42.55	2.04	11.87	42.61	2.01	11.87	42.67
2.37	11.88	42.55	2.33	11.87	42.62	2.29	11.86	42.68	2.26	11.86	42.75	2.22	11.85	42.81	2.19	11.85	42.87
2.78	11.85	42.80	2.73	11.85	42.87	2.69	11.84	42.93	2.64	11.84	43.00	2.59	11.84	43.06	2.55	11.83	43.12
3.21	11.84	42.95	3.15	11.84	43.01	3.10	11.84	43.08	3.04	11.83	43.14	2.98	11.83	43.21	2.93	11.83	43.27
3.65	11.84	43.04	3.59	11.83	43.10	3.52	11.83	43.17	3.45	11.83	43.23	3.38	11.82	43.30	3.31	11.82	43.36
4.10	11.83	43.10	4.03	11.83	43.16	3.95	11.83	43.23	3.87	11.82	43.30	3.79	11.82	43.36	3.71	11.82	43.42
4.56	11.83	43.14	4.47	11.83	43.21	4.38	11.83	43.27	4.29	11.82	43.34	4.20	11.82	43.40	4.12	11.82	43.47
5.02	11.83	43.17	4.92	11.83	43.24	4.82	11.82	43.30	4.72	11.82	43.37	4.62	11.82	43.44	4.52	11.82	43.50
7.37	11.83	43.25	7.21	11.82	43.31	7.06	11.82	43.38	6.91	11.82	43.45	6.75	11.82	43.51	6.60	11.82	43.58
1.59	15.06	37.29	1.57	14.97	37.51	1.55	14.90	37.71	1.53	14.83	37.89	1.51	14.76	38.07	1.50	14.71	38.23
1.75	14.24	39.79	1.73	14.21	39.91	1.71	14.18	40.03	1.69	14.16	40.15	1.67	14.13	40.26	1.65	14.11	40.36
1.95	14.02	40.80	1.93	14.01	40.90	1.90	13.99	41.00	1.87	13.97	41.10	1.85	13.96	41.20	1.82	13.94	41.29
2.17	13.93	41.35	2.14	13.92	41.45	2.11	13.91	41.54	2.08	13.89	41.64	2.05	13.88	41.73	2.01	13.87	41.82
2.40	13.89	41.69	2.36	13.88	41.79	2.33	13.87	41.88	2.29	13.86	41.97	2.25	13.85	42.07	2.22	13.84	42.15
2.64	13.86	41.92	2.60	13.85	42.02	2.55	13.84	42.11	2.51	13.83	42.20	2.47	13.83	42.29	2.42	13.82	42.38
3.14	13.84	42.20	3.08	13.83	42.30	3.02	13.82	42.39	2.97	13.81	42.48	2.91	13.81	42.57	2.86	13.80	42.66
3.65	13.82	42.36	3.58	13.82	42.46	3.51	13.81	42.55	3.44	13.80	42.64	3.38	13.80	42.74	3.31	13.80	42.83
4.18	13.82	42.46	4.09	13.81	42.56	4.01	13.80	42.65	3.93	13.80	42.74	3.85	13.79	42.84	3.77	13.79	42.93
4.71	13.81	42.53	4.61	13.81	42.62	4.52	13.80	42.72	4.43	13.80	42.81	4.33	13.79	42.90	4.24	13.79	42.99
5.25	13.81	42.57	5.14	13.80	42.67	5.03	13.80	42.76	4.93	13.79	42.86	4.82	13.79	42.95	4.72	13.79	43.04
5.79	13.81	42.60	5.67	13.80	42.70	5.55	13.80	42.80	5.43	13.79	42.89	5.31	13.79	42.98	5.20	13.79	43.08
8.54	13.80	42.68	8.35	13.80	42.78	8.17	13.79	42.88	7.99	13.79	42.97	7.82	13.79	43.07	7.64	13.79	43.16

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(k) $\epsilon_p = 45°$; $\Gamma = 10°$; $\epsilon_r = 10.16°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	22.45	45.30	3.0	-	-	-	-	-	-	-	-	42.97	35.14	1.73	17.71	34.84	3.31	.4461	2.12
			4.0	43.35	31.23	2.07	16.77	37.20	5.13	.4251	2.39	44.47	28.49	1.91	16.37	38.51	4.08	.3956	2.83
			5.0	44.00	27.91	2.34	16.31	38.76	6.60	.3877	2.82	44.77	25.46	2.15	16.08	39.76	5.22	.3470	3.40
			6.0	44.25	26.09	2.64	16.13	39.52	8.46	.3585	3.14	44.89	23.71	2.41	15.96	40.42	6.62	.3098	3.87
			7.0	44.37	24.95	2.95	16.04	39.96	10.65	.3369	3.39	44.95	22.59	2.69	15.90	40.83	8.27	.2819	4.26
			8.0	44.45	24.18	3.28	15.99	40.25	13.19	.3207	3.59	44.99	21.83	2.98	15.87	41.09	10.16	.2608	4.59
			10.0	44.53	23.26	3.95	15.94	40.59	19.25	.2990	3.86	45.02	20.90	3.57	15.83	41.41	14.68	.2322	5.08
			12.0	44.57	22.74	4.64	15.91	40.77	26.66	.2858	4.04	45.04	20.37	4.18	15.82	41.58	20.18	.2144	5.42
			14.0	44.59	22.42	5.34	15.89	40.89	35.41	.2772	4.16	45.05	20.04	4.80	15.81	41.69	26.68	.2029	5.67
			16.0	44.61	22.21	6.05	15.88	40.96	45.49	.2714	4.24	45.06	19.82	5.43	15.80	41.76	34.17	.1950	5.85
			18.0	44.62	22.06	6.76	15.88	41.01	56.92	.2673	4.30	45.07	19.67	6.06	15.80	41.81	42.66	.1894	5.98
			20.0	44.62	21.96	7.48	15.87	41.05	69.70	.2643	4.35	45.07	19.56	6.70	15.79	41.85	52.14	.1853	6.08
			30.0	44.64	21.70	11.09	15.86	41.13	153.7	.2570	4.46	45.08	19.30	9.91	15.79	41.93	114.5	.1751	6.33
18	25.24	45.53	3.0	-	-	-	-	-	-	-	-	40.22	40.08	1.93	21.91	29.56	4.19	.3901	1.89
			4.0	42.43	36.62	2.27	19.33	34.81	6.21	.3960	2.18	44.36	30.81	2.05	18.53	37.16	4.73	.3652	2.67
			5.0	43.64	30.81	2.56	18.52	37.16	7.95	.3652	2.58	44.81	27.70	2.32	18.14	38.72	6.14	.3209	3.20
			6.0	44.04	28.89	2.90	18.26	38.15	10.26	.3401	2.86	44.98	25.95	2.63	17.99	39.51	7.88	.2875	3.62
			7.0	44.23	27.73	3.26	18.14	38.71	13.02	.3215	3.07	45.06	24.86	2.94	17.91	39.97	9.94	.2629	3.96
			8.0	44.34	26.97	3.63	18.07	39.06	16.22	.3078	3.23	45.11	24.12	3.27	17.87	40.27	12.31	.2446	4.23
			10.0	44.46	26.06	4.39	17.99	39.46	23.89	.2897	3.45	45.16	23.23	3.94	17.83	40.63	17.98	.2202	4.64
			12.0	44.52	25.55	5.18	17.96	39.68	33.27	.2789	3.59	45.19	22.73	4.64	17.81	40.83	24.91	.2054	4.91
			14.0	44.55	25.25	5.97	17.94	39.81	44.35	.2719	3.68	45.21	22.42	5.34	17.80	40.95	33.09	.1959	5.10
			16.0	44.57	25.04	6.77	17.93	39.90	57.13	.2673	3.74	45.22	22.21	6.05	17.79	41.03	42.52	.1894	5.23
			18.0	44.59	24.90	7.58	17.92	39.95	71.62	.2640	3.78	45.22	22.07	6.76	17.79	41.08	53.21	.1849	5.33
			20.0	44.60	24.80	8.39	17.91	40.00	87.81	.2616	3.82	45.23	21.97	7.48	17.78	41.12	65.16	.1815	5.41
			30.0	44.62	24.56	12.47	17.90	40.09	194.3	.2558	3.90	45.24	21.73	11.11	17.77	41.21	143.7	.1734	5.60
20	28.00	45.84	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	44.18	33.34	2.20	20.77	35.51	5.47	.3390	2.51
			5.0	42.95	34.17	2.81	20.95	34.94	9.61	.3459	2.33	44.85	30.06	2.50	20.23	37.52	7.15	.2995	3.00
			6.0	43.66	31.99	3.18	20.81	36.39	12.39	.3251	2.59	45.09	28.30	2.84	20.04	38.46	9.27	.2697	3.38
			7.0	43.98	30.75	3.58	20.32	37.13	15.77	.3094	2.77	45.21	27.21	3.20	19.94	39.01	11.79	.2480	3.67
			8.0	44.15	29.96	3.99	20.21	37.58	19.71	.2979	2.90	45.27	26.49	3.57	19.89	39.35	14.69	.2321	3.90
			10.0	44.33	29.02	4.85	20.11	38.08	29.20	.2828	3.08	45.35	25.62	4.32	19.84	39.76	21.65	.2112	4.24
			12.0	44.42	28.52	5.73	20.06	38.35	40.81	.2738	3.19	45.38	25.14	5.10	19.81	39.98	30.15	.1987	4.46
			14.0	44.47	28.21	6.62	20.03	38.51	54.53	.2680	3.26	45.40	24.84	5.88	19.80	40.11	40.20	.1908	4.61
			16.0	44.50	28.01	7.51	20.01	38.61	70.37	.2642	3.31	45.41	24.65	6.67	19.79	40.20	51.79	.1854	4.71
			18.0	44.52	27.87	8.41	20.00	38.68	88.32	.2615	3.34	45.42	24.52	7.47	19.78	40.26	64.92	.1816	4.79
			20.0	44.54	27.77	9.32	19.99	38.73	108.4	.2596	3.37	45.43	24.42	8.27	19.78	40.30	79.60	.1789	4.84
			30.0	44.57	27.54	13.87	19.97	38.84	240.4	.2548	3.43	45.44	24.19	12.29	19.77	40.40	176.2	.1722	4.98
22	30.74	46.21	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	43.74	36.25	2.37	23.22	33.28	6.36	.3156	2.34
			5.0	-	-	-	-	-	-	-	-	44.85	32.58	2.69	22.38	36.07	8.29	.2816	2.80
			6.0	42.80	35.69	3.50	23.05	33.75	15.08	.3121	2.30	45.20	30.75	3.07	22.12	37.24	10.81	.2552	3.14
			7.0	43.43	34.17	3.93	22.68	34.95	19.08	.2994	2.47	45.36	29.65	3.46	22.00	37.88	13.83	.2361	3.40
			8.0	43.75	33.26	4.39	22.50	35.60	23.83	.2898	2.59	45.46	28.94	3.87	21.93	38.29	17.31	.2223	3.60
			10.0	44.05	32.24	5.34	22.32	36.29	35.36	.2773	2.74	45.55	28.08	4.71	21.86	38.76	25.68	.2043	3.87
			12.0	44.19	31.70	6.31	22.24	36.64	49.50	.2698	2.83	45.60	27.61	5.56	21.83	39.01	35.92	.1936	4.05
			14.0	44.27	31.38	7.29	22.20	36.85	66.23	.2650	2.89	45.63	27.32	6.43	21.81	39.16	48.02	.1868	4.17
			16.0	44.32	31.17	8.28	22.17	36.98	85.55	.2619	2.93	45.65	27.14	7.30	21.80	39.26	61.97	.1823	4.25
			18.0	44.36	31.03	9.28	22.15	37.07	107.4	.2596	2.96	45.66	27.01	8.17	21.79	39.33	77.79	.1791	4.31
			20.0	44.38	30.93	10.28	22.14	37.13	131.9	.2580	2.98	45.67	26.92	9.05	21.79	39.37	95.46	.1768	4.36
			30.0	44.43	30.69	15.31	22.11	37.28	293.0	.2541	3.02	45.69	26.70	13.48	21.77	39.49	211.8	.1713	4.47
24	33.43	46.64	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	44.73	35.33	2.89	24.64	34.21	9.59	.2663	2.60
			6.0	-	-	-	-	-	-	-	-	45.27	33.35	3.30	24.26	35.75	12.53	.2432	2.91
			7.0	41.34	39.25	4.43	25.96	30.37	24.28	.2891	2.10	45.51	32.21	3.73	24.09	36.55	16.08	.2265	3.13
			8.0	42.57	37.44	4.86	25.23	32.31	29.34	.2826	2.26	45.64	31.48	4.18	24.00	37.04	20.20	.2144	3.31
			10.0	43.31	36.02	5.88	24.81	33.62	43.02	.2726	2.41	45.77	30.62	5.09	23.91	37.59	30.10	.1988	3.54
			12.0	43.60	35.35	6.94	24.65	34.20	60.05	.2665	2.49	45.84	30.15	6.03	23.87	37.89	42.22	.1896	3.69
			14.0	43.76	34.96	8.02	24.56	34.51	80.27	.2626	2.54	45.88	29.87	6.97	23.84	38.06	56.55	.1838	3.79
			16.0	43.85	34.72	9.11	24.51	34.71	103.6	.2600	2.57	45.90	29.69	7.92	23.83	38.17	73.09	.1799	3.85
			18.0	43.91	34.56	10.21	24.48	34.84	130.1	.2581	2.60	45.92	29.56	8.88	23.82	38.25	91.83	.1772	3.90
			20.0	43.95	34.44	11.31	24.45	34.93	159.8	.2568	2.61	45.93	29.47	9.84	23.81	38.30	112.8	.1753	3.94
			30.0	44.05	34.16	16.85	24.40	35.14	354.8	.2536	2.66	45.96	29.25	14.66	23.80	38.43	250.6	.1705	4.02
26	36.08	47.14	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	44.20	38.60	3.12	27.21	31.43	11.18	.2523	2.37
			6.0	-	-	-	-	-	-	-	-	45.20	36.19	3.54	26.51	33.81	14.48	.2331	2.67
			7.0	-	-	-	-	-	-	-	-	45.58	34.94	4.01	26.26	34.88	18.58	.2185	2.88
			8.0	-	-	-	-	-	-	-	-	45.78	34.16	4.49	26.13	35.51	23.38	.2080	3.03
			10.0	-	-	-	-	-	-	-	-	45.97	33.27	5.49	26.00	36.19	34.95	.1944	3.23
			12.0	-	-	-	-	-	-	-	-	46.07	32.79	6.50	25.94	36.54	49.11	.1864	3.36
			14.0	-	-	-	-	-	-	-	-	46.12	32.50	7.52	25.91	36.75	65.86	.1814	3.44
			16.0	41.64	40.10	10.31	27.84	29.66	132.6	.2580	2.14	46.16	32.32	8.55	25.89	36.88	85.20	.1781	3.49
			18.0	42.06	39.58	11.47	27.60	30.31	164.3	.2566	2.18	46.18	32.19	9.59	25.88	36.97	107.1	.1757	3.53
			20.0	42.27	39.29	12.67	27.48	30.65	200.4	.2556	2.21	46.19	32.10	10.63	25.87	37.04	131.6	.1740	3.56
			30.0	42.66	38.73	18.77	27.26	31.28	440.5	.2531	2.26	46.23	31.88	15.85	25.85	37.19	292.8	.1700	3.63
28	38.69	47.69	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	44.70	39.57	3.82	29.09	30.84	16.87	.2257	2.42
			7.0	-	-	-	-	-	-	-	-	45.45	37.97	4.31	28.59	32.61	21.47	.2116	2.62
			8.0	-	-	-	-	-	-	-	-	45.78	37.07	4.82	28.37	33.50	26.97	.2025	2.76
			10.0	-	-	-	-	-	-	-	-	46.09	36.09	5.89	28.17	34.41	40.31	.1907	2.94
			12.0	-	-	-	-	-	-	-	-	46.24	35.57	6.98	28.09	34.87	56.69	.1838	3.05
			14.0	-	-	-	-	-	-	-	-	46.32	35.27	8.08	28.04	35.13	76.07	.1794	3.12
			16.0	-	-	-	-	-	-	-	-	46.36	35.07	9.19	28.01	35.30	98.45	.1765	3.17
			18.0	-	-	-	-	-	-	-	-	46.40	34.94	10.31	27.99	35.41	123.8	.1745	3.20
			20.0	-	-	-	-	-	-	-	-	46.42	34.84	11.43	27.97	35.49	152.2	.1730	3.22
			30.0	-	-	-	-	-	-	-	-	46.47	34.62	17.04	27.94	35.67	338.7	.1695	3.28
30	41.25	48.31	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(k) $\epsilon_p = 45°$; $\Gamma = 10°$; $\epsilon_r = 10.16°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.70	17.50	35.31	1.67	17.33	35.71	1.65	17.19	36.06	1.62	17.07	36.37	1.60	16.97	36.65	1.58	16.87	36.91
1.88	16.32	38.70	1.85	16.28	38.89	1.83	16.23	39.06	1.80	16.19	39.23	1.78	16.16	39.39	1.75	16.12	39.55
2.12	16.05	39.92	2.08	16.02	40.08	2.05	15.99	40.23	2.02	15.97	40.37	1.99	15.95	40.51	1.96	15.93	40.64
2.37	15.94	40.57	2.33	15.92	40.72	2.30	15.90	40.86	2.26	15.88	40.99	2.22	15.86	41.12	2.19	15.85	41.25
2.64	15.88	40.97	2.60	15.87	41.11	2.55	15.85	41.24	2.51	15.84	41.37	2.46	15.82	41.50	2.42	15.81	41.63
2.92	15.85	41.23	2.87	15.84	41.37	2.82	15.82	41.50	2.77	15.81	41.63	2.72	15.80	41.76	2.67	15.79	41.88
3.50	15.82	41.55	3.43	15.81	41.68	3.37	15.80	41.81	3.30	15.79	41.94	3.24	15.78	42.07	3.17	15.77	42.19
4.09	15.80	41.72	4.01	15.79	41.86	3.93	15.78	41.99	3.85	15.78	42.12	3.77	15.77	42.24	3.70	15.76	42.37
4.70	15.80	41.83	4.60	15.79	41.96	4.51	15.78	42.10	4.42	15.77	42.23	4.32	15.77	42.35	4.23	15.76	42.48
5.31	15.79	41.90	5.20	15.78	42.04	5.10	15.77	42.17	4.99	15.77	42.30	4.88	15.76	42.42	4.77	15.76	42.55
5.93	15.79	41.95	5.81	15.78	42.09	5.69	15.77	42.22	5.56	15.77	42.35	5.44	15.76	42.47	5.32	15.76	42.60
6.56	15.78	41.99	6.42	15.78	42.12	6.28	15.77	42.25	6.14	15.76	42.38	6.01	15.76	42.51	5.87	15.76	42.63
9.70	15.78	42.07	9.49	15.77	42.21	9.28	15.77	42.34	9.08	15.76	42.47	8.87	15.76	42.60	8.67	15.75	42.72
1.84	20.46	32.26	1.79	19.99	33.25	1.75	19.68	33.96	1.72	19.44	34.53	1.69	19.25	35.00	1.67	19.09	35.42
2.02	18.44	37.46	1.98	18.37	37.74	1.95	18.30	38.00	1.92	18.24	38.25	1.89	18.19	38.48	1.86	18.14	38.70
2.29	18.09	38.96	2.25	18.05	39.18	2.21	18.01	39.39	2.17	17.97	39.59	2.14	17.94	39.78	2.10	17.91	39.97
2.58	17.95	39.72	2.53	17.92	39.92	2.49	17.89	40.11	2.45	17.87	40.30	2.40	17.85	40.48	2.36	17.83	40.66
2.89	17.89	40.17	2.84	17.86	40.37	2.78	17.84	40.55	2.73	17.82	40.73	2.68	17.80	40.91	2.63	17.79	41.08
3.21	17.85	40.47	3.15	17.83	40.66	3.09	17.81	40.84	3.03	17.79	41.02	2.97	17.78	41.19	2.91	17.76	41.36
3.87	17.81	40.82	3.79	17.79	41.01	3.71	17.78	41.19	3.64	17.76	41.36	3.56	17.75	41.53	3.49	17.74	41.70
4.54	17.79	41.02	4.45	17.78	41.20	4.36	17.76	41.38	4.26	17.75	41.55	4.17	17.74	41.72	4.09	17.73	41.89
5.23	17.78	41.14	5.12	17.77	41.32	5.01	17.75	41.50	4.90	17.74	41.67	4.80	17.74	41.84	4.69	17.73	42.00
5.92	17.77	41.21	5.80	17.76	41.40	5.67	17.75	41.57	5.55	17.74	41.75	5.43	17.73	41.92	5.31	17.73	42.08
6.62	17.77	41.27	6.48	17.76	41.45	6.34	17.75	41.63	6.20	17.74	41.80	6.06	17.73	41.97	5.92	17.72	42.13
7.32	17.77	41.31	7.16	17.75	41.49	7.01	17.74	41.67	6.85	17.74	41.84	6.70	17.73	42.01	6.55	17.72	42.17
10.86	17.76	41.40	10.63	17.75	41.58	10.39	17.74	41.76	10.16	17.73	41.93	9.92	17.73	42.10	9.69	17.72	42.26
-	-	-	-	-	-	1.89	22.84	30.46	1.83	22.12	31.98	1.79	21.71	32.93	1.76	21.42	33.65
2.16	20.62	35.99	2.12	20.50	36.42	2.08	20.40	36.80	2.04	20.31	37.16	2.01	20.24	37.48	1.97	20.17	37.79
2.46	20.15	37.86	2.41	20.09	38.17	2.37	20.03	38.47	2.33	19.98	38.75	2.29	19.94	39.01	2.25	19.90	39.26
2.79	19.98	38.76	2.74	19.94	39.04	2.69	19.90	39.31	2.64	19.86	39.56	2.59	19.83	39.80	2.54	19.81	40.03
3.14	19.90	39.28	3.08	19.86	39.55	3.02	19.83	39.80	2.96	19.80	40.05	2.90	19.78	40.28	2.84	19.76	40.50
3.50	19.85	39.62	3.43	19.82	39.88	3.36	19.80	40.13	3.29	19.77	40.36	3.22	19.75	40.59	3.16	19.74	40.81
4.23	19.81	40.02	4.15	19.78	40.27	4.06	19.76	40.51	3.97	19.74	40.74	3.89	19.73	40.96	3.81	19.71	41.18
4.99	19.78	40.24	4.88	19.76	40.48	4.78	19.74	40.72	4.68	19.73	40.95	4.57	19.71	41.17	4.47	19.70	41.38
5.76	19.77	40.37	5.63	19.75	40.61	5.51	19.73	40.85	5.39	19.72	41.07	5.27	19.71	41.29	5.15	19.70	41.51
6.53	19.76	40.45	6.39	19.74	40.70	6.25	19.73	40.93	6.11	19.71	41.16	5.97	19.70	41.38	5.84	19.69	41.59
7.31	19.76	40.51	7.15	19.74	40.75	6.99	19.72	40.99	6.83	19.71	41.21	6.68	19.70	41.43	6.52	19.69	41.65
8.09	19.76	40.55	7.91	19.74	40.79	7.73	19.72	41.03	7.56	19.71	41.25	7.39	19.70	41.47	7.22	19.69	41.69
12.02	19.75	40.65	11.75	19.73	40.89	11.49	19.72	41.13	11.22	19.70	41.35	10.97	19.70	41.57	10.71	19.69	41.78
-	-	-	-	-	-	-	-	-	-	-	-	1.92	24.74	29.60	1.86	23.98	31.31
2.31	22.93	34.12	2.26	22.72	34.81	2.21	22.55	35.40	2.17	22.42	35.92	2.13	22.30	36.38	2.09	22.21	36.80
2.64	22.26	36.57	2.58	22.16	37.02	2.53	22.08	37.43	2.48	22.01	37.81	2.44	21.95	38.17	2.39	21.90	38.50
3.00	22.04	37.66	2.94	21.97	38.05	2.88	21.91	38.41	2.83	21.86	38.75	2.77	21.82	39.07	2.72	21.79	39.38
3.39	21.93	38.27	3.32	21.88	38.63	3.25	21.83	38.98	3.18	21.79	39.30	3.12	21.76	39.60	3.06	21.73	39.90
3.79	21.87	38.66	3.71	21.83	39.01	3.63	21.79	39.34	3.55	21.76	39.65	3.48	21.73	39.95	3.41	21.71	40.23
4.60	21.82	39.11	4.50	21.78	39.45	4.41	21.75	39.76	4.31	21.72	40.07	4.22	21.70	40.35	4.13	21.68	40.63
5.44	21.79	39.36	5.32	21.75	39.68	5.20	21.73	39.99	5.09	21.70	40.29	4.97	21.69	40.58	4.86	21.67	40.85
6.28	21.77	39.50	6.14	21.74	39.83	6.01	21.72	40.13	5.87	21.69	40.43	5.74	21.68	40.71	5.61	21.67	40.99
7.13	21.76	39.60	6.97	21.73	39.92	6.82	21.71	40.22	6.66	21.69	40.52	6.51	21.67	40.80	6.36	21.66	41.07
7.99	21.76	39.66	7.81	21.73	39.98	7.63	21.70	40.29	7.46	21.69	40.58	7.29	21.67	40.86	7.12	21.66	41.13
8.85	21.75	39.71	8.65	21.72	40.03	8.45	21.70	40.33	8.26	21.68	40.62	8.07	21.67	40.90	7.88	21.66	41.18
13.17	21.74	39.82	12.87	21.72	40.13	12.57	21.69	40.44	12.28	21.68	40.73	12.00	21.67	41.01	11.71	21.66	41.28
2.48	25.58	31.34	2.41	25.10	32.70	2.35	24.80	33.67	2.30	24.58	34.45	2.25	24.40	35.12	2.20	24.27	35.71
2.82	24.44	34.99	2.76	24.28	35.66	2.70	24.15	36.25	2.64	24.05	36.77	2.59	23.97	37.25	2.54	23.90	37.69
3.22	24.13	36.36	3.15	24.03	36.90	3.08	23.94	37.40	3.02	23.87	37.85	2.96	23.82	38.28	2.89	23.77	38.67
3.65	23.99	37.10	3.57	23.91	37.59	3.49	23.85	38.05	3.41	23.79	38.47	3.34	23.75	38.87	3.27	23.71	39.25
4.08	23.92	37.55	3.99	23.85	38.02	3.90	23.79	38.46	3.82	23.75	38.87	3.73	23.71	39.25	3.65	23.68	39.62
4.98	23.84	38.07	4.86	23.79	38.52	4.75	23.74	38.94	4.65	23.70	39.33	4.54	23.68	39.70	4.44	23.65	40.05
5.89	23.81	38.35	5.75	23.76	38.79	5.62	23.72	39.19	5.49	23.68	39.58	5.37	23.66	39.94	5.25	23.64	40.29
6.81	23.79	38.52	6.65	23.74	38.94	6.50	23.70	39.35	6.35	23.67	39.72	6.21	23.65	40.09	6.06	23.63	40.43
7.74	23.77	38.62	7.56	23.73	39.05	7.38	23.69	39.44	7.21	23.67	39.82	7.05	23.65	40.18	6.88	23.63	40.52
8.67	23.77	38.70	8.47	23.72	39.12	8.27	23.69	39.51	8.08	23.66	39.89	7.89	23.64	40.25	7.71	23.63	40.59
9.61	23.76	38.75	9.38	23.72	39.17	9.17	23.69	39.56	8.95	23.66	39.94	8.74	23.64	40.29	8.54	23.63	40.63
14.31	23.75	38.87	13.98	23.71	39.29	13.65	23.68	39.68	13.33	23.65	40.05	13.02	23.64	40.40	12.71	23.62	40.74
-	-	-	2.60	28.12	28.96	2.50	27.26	31.29	2.43	26.84	32.63	2.37	26.56	33.64	2.32	26.35	34.47
3.02	26.76	32.91	2.94	26.47	33.98	2.87	26.27	34.84	2.80	26.12	35.57	2.74	26.00	36.22	2.68	25.90	36.80
3.45	26.29	34.76	3.36	26.12	35.55	3.29	26.00	36.23	3.21	25.90	36.84	3.14	25.82	37.40	3.07	25.76	37.91
3.91	26.10	35.68	3.81	25.97	36.38	3.73	25.87	36.99	3.64	25.80	37.56	3.56	25.74	38.07	3.48	25.69	38.55
4.38	25.99	36.24	4.28	25.89	36.89	4.18	25.81	37.47	4.08	25.75	38.00	3.99	25.70	38.49	3.90	25.66	38.96
5.35	25.89	36.86	5.22	25.81	37.46	5.10	25.74	38.01	4.98	25.69	38.51	4.87	25.65	38.98	4.76	25.62	39.43
6.34	25.85	37.18	6.19	25.77	37.76	6.04	25.71	38.29	5.90	25.67	38.79	5.76	25.64	39.25	5.63	25.61	39.68
7.34	25.82	37.37	7.16	25.75	37.94	6.99	25.70	38.46	6.83	25.66	38.95	6.67	25.63	39.41	6.51	25.60	39.84
8.34	25.81	37.50	8.14	25.74	38.06	7.95	25.69	38.58	7.76	25.65	39.06	7.58	25.62	39.51	7.40	25.60	39.94
9.35	25.79	37.58	9.13	25.73	38.14	8.91	25.68	38.65	8.70	25.64	39.13	8.49	25.62	39.58	8.29	25.60	40.01
10.37	25.79	37.64	10.11	25.72	38.19	9.87	25.68	38.71	9.64	25.64	39.18	9.41	25.61	39.63	9.18	25.59	40.06
15.45	25.77	37.78	15.08	25.71	38.33	14.72	25.67	38.83	14.36	25.63	39.30	14.02	25.61	39.75	13.68	25.59	40.17
-	-	-	-	-	-	-	-	-	2.58	29.36	30.02	2.50	28.82	31.78	2.44	28.49	33.01
3.26	29.57	29.38	3.14	28.84	31.68	3.04	28.47	33.08	2.97	28.23	34.16	2.89	28.05	35.05	2.83	27.92	35.82
3.69	28.59	32.62	3.58	28.29	33.86	3.49	28.09	34.85	3.41	27.94	35.69	3.33	27.83	36.42	3.25	27.75	37.08
4.18	28.28	33.90	4.07	28.08	34.91	3.97	27.93	35.77	3.87	27.82	36.52	3.78	27.73	37.18	3.69	27.67	37.79
4.69	28.13	34.62	4.56	27.97	35.53	4.45	27.84	36.32	4.34	27.75	37.03	4.24	27.68	37.66	4.14	27.63	38.24
5.73	27.99	35.39	5.58	27.86	36.22	5.45	27.76	36.95	5.31	27.69	37.60	5.19	27.64	38.20	5.07	27.60	38.76
6.79	27.93	35.78	6.62	27.81	36.57	6.46	27.72	37.27	6.30	27.66	37.91	6.15	27.61	38.49	6.01	27.58	39.04
7.87	27.89	36.01	7.67	27.78	36.78	7.48	27.70	37.47	7.30	27.64	38.09	7.12	27.60	38.67	6.95	27.57	39.20
8.95	27.87	36.16	8.72	27.77	36.92	8.51	27.69	37.59	8.30	27.63	38.21	8.10	27.59	38.78	7.91	27.57	39.31
10.04	27.85	36.26	9.78	27.76	37.01	9.54	27.68	37.68	9.31	27.63	38.29	9.08	27.59	38.86	8.86	27.56	39.38
11.13	27.84	36.33	10.84	27.75	37.07	10.57	27.68	37.74	10.32	27.62	38.35	10.07	27.59	38.91	9.82	27.56	39.44
16.60	27.82	36.50	16.17	27.73	37.23	15.77	27.66	37.88	15.39	27.61	38.48	15.01	27.58	39.04	14.65	27.56	39.56
-	-	-	-	-	-	-	-	-	-	-	-	2.65	31.33	29.10	2.56	30.71	31.21
-	-	-	3.41	32.17	26.72	3.23	30.87	30.64	3.13	30.42	32.39	3.05	30.14	33.67	2.97	29.96	34.70
3.98	31.37	28.98	3.82	30.61	31.58	3.70	30.25	33.14	3.60	30.02	34.33	3.51	29.86	35.31	3.43	29.75	36.16

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(k) $\epsilon_p = 45°$; $\Gamma = 10°$; $\epsilon_r = 10.16°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
30	41.25	48.31	7.0	-	-	-	-	-	-	-	-	4.26	42.14	4.70	31.66	28.11	25.57	.2044	2.31
			8.0	-	-	-	-	-	-	-	-	5.32	40.53	5.20	30.95	30.36	31.37	.1975	2.48
			10.0	-	-	-	-	-	-	-	-	5.97	39.24	6.33	30.53	31.92	46.51	.1875	2.65
			12.0	-	-	-	-	-	-	-	-	6.20	38.62	7.49	30.37	32.60	65.28	.1815	2.75
			14.0	-	-	-	-	-	-	-	-	6.35	38.27	8.67	30.29	32.97	87.55	.1778	2.81
			16.0	-	-	-	-	-	-	-	-	6.43	38.05	9.86	30.24	33.20	113.3	.1752	2.85
			18.0	-	-	-	-	-	-	-	-	6.49	37.90	11.06	30.21	33.36	142.4	.1735	2.88
			20.0	-	-	-	-	-	-	-	-	6.52	37.79	12.26	30.18	33.46	175.1	.1722	2.90
			30.0	-	-	-	-	-	-	-	-	6.61	37.54	18.28	30.13	33.71	389.7	.1692	2.95
32	43.77	48.98	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	5.38	42.58	8.12	33.22	28.43	76.73	.1793	2.41
			14.0	-	-	-	-	-	-	-	-	5.80	41.94	9.36	32.95	29.36	102.0	.1762	2.49
			16.0	-	-	-	-	-	-	-	-	6.01	41.59	10.62	32.81	29.85	131.5	.1741	2.53
			18.0	-	-	-	-	-	-	-	-	6.13	41.37	11.90	32.73	30.15	165.0	.1726	2.56
			20.0	-	-	-	-	-	-	-	-	6.22	41.22	13.18	32.68	30.35	202.5	.1715	2.58
			30.0	-	-	-	-	-	-	-	-	6.39	40.88	19.64	32.57	30.80	449.7	.1688	2.63
34	46.22	49.71	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	48.63	50.48	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	50.98	51.30	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	53.27	52.17	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	55.51	53.08	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(k) $\epsilon_p = 45°$; $\Gamma = 10°$; $\epsilon_r = 10.16°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
4.47	30.67	31.38	4.33	30.27	33.05	4.21	30.03	34.30	4.10	29.86	35.31	4.00	29.74	36.19	3.90	29.66	36.96
5.01	30.40	32.45	4.86	30.11	33.86	4.73	29.91	34.97	4.61	29.78	35.91	4.49	29.68	36.73	4.39	29.61	37.46
6.12	30.17	33.51	5.95	29.95	34.72	5.79	29.80	35.71	5.64	29.70	36.57	5.51	29.62	37.34	5.37	29.57	38.03
7.26	30.07	34.03	7.06	29.88	35.15	6.87	29.75	36.09	6.70	29.66	36.92	6.54	29.60	37.66	6.38	29.55	38.34
8.41	30.02	34.32	8.18	29.85	35.40	7.96	29.73	36.32	7.76	29.64	37.13	7.57	29.58	37.85	7.39	29.54	38.52
9.57	29.99	34.51	9.30	29.82	35.56	9.06	29.71	36.46	8.83	29.63	37.26	8.62	29.57	37.98	8.41	29.53	38.63
10.73	29.97	34.63	10.44	29.81	35.67	10.16	29.70	36.56	9.91	29.62	37.35	9.66	29.57	38.06	9.43	29.53	38.71
11.89	29.95	34.72	11.57	29.80	35.75	11.27	29.69	36.63	10.99	29.62	37.41	10.71	29.56	38.12	10.45	29.53	38.77
17.75	29.92	34.93	17.27	29.77	35.93	16.82	29.67	36.79	16.39	29.60	37.56	15.99	29.55	38.26	15.59	29.52	38.91
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.70	33.14	28.69
-	-	-	-	-	-	-	-	-	3.32	32.79	29.94	3.21	32.30	31.97	3.12	32.02	33.41
-	-	-	4.12	33.62	27.16	3.93	32.57	30.81	3.80	32.16	32.65	3.70	31.92	34.01	3.61	31.75	35.13
-	-	-	4.61	32.67	30.38	4.46	32.20	32.43	4.33	31.94	33.88	4.22	31.76	35.05	4.11	31.65	36.04
5.39	33.11	28.79	5.17	32.38	31.61	5.01	32.03	33.31	4.87	31.83	34.60	4.74	31.69	35.67	4.63	31.59	36.60
6.54	32.57	30.80	6.32	32.13	32.80	6.14	31.88	34.23	5.97	31.72	35.38	5.82	31.62	36.37	5.68	31.54	37.24
7.75	32.38	31.60	7.50	32.02	33.37	7.29	31.81	34.69	7.09	31.68	35.79	6.91	31.58	36.73	6.74	31.52	37.57
8.98	32.28	32.04	8.69	31.97	33.69	8.45	31.78	34.96	8.23	31.65	36.02	8.02	31.57	36.95	7.82	31.51	37.77
10.21	32.23	32.30	9.89	31.93	33.89	9.62	31.75	35.13	9.36	31.63	36.17	9.12	31.56	37.08	8.90	31.50	37.90
11.45	32.19	32.48	11.10	31.91	34.03	10.79	31.74	35.25	10.50	31.62	36.28	10.24	31.55	37.18	9.98	31.50	37.99
12.69	32.17	32.60	12.30	31.90	34.12	11.96	31.73	35.33	11.65	31.62	36.35	11.35	31.54	37.24	11.07	31.50	38.05
18.93	32.11	32.88	18.36	31.86	34.35	17.86	31.71	35.52	17.39	31.60	36.52	16.95	31.53	37.40	16.52	31.49	38.19
-	-	-	-	-	-	-	-	-	-	-	-	3.38	34.59	29.70	3.27	34.12	31.87
-	-	-	-	-	-	4.22	35.60	26.14	4.01	34.42	30.41	3.89	34.01	32.45	3.78	33.78	33.95
-	-	-	-	-	-	4.72	34.57	29.77	4.56	34.08	32.10	4.43	33.81	33.72	4.32	33.65	35.01
-	-	-	5.34	35.14	27.65	5.30	34.27	31.10	5.13	33.92	33.01	4.99	33.71	34.46	4.86	33.58	35.65
-	-	-	6.72	34.51	30.02	6.49	34.03	32.36	6.30	33.78	33.97	6.13	33.62	35.26	5.97	33.52	36.36
8.42	35.54	26.34	7.97	34.31	30.91	7.71	33.93	32.96	7.49	33.71	34.46	7.29	33.58	35.68	7.10	33.50	36.73
9.66	35.05	27.94	9.23	34.22	31.38	8.94	33.87	33.30	8.68	33.68	34.74	8.45	33.56	35.92	8.24	33.48	36.93
10.96	34.87	28.60	10.50	34.16	31.67	10.17	33.84	33.51	9.89	33.66	34.91	9.63	33.54	36.08	9.38	33.47	37.09
12.27	34.77	28.98	11.78	34.12	31.86	11.41	33.82	33.65	11.09	33.64	35.03	10.80	33.54	36.19	10.53	33.47	37.19
13.59	34.71	29.23	13.06	34.10	32.00	12.69	33.81	33.75	12.30	33.64	35.12	11.98	33.53	36.26	11.67	33.47	37.26
20.24	34.58	29.76	19.49	34.04	32.30	18.89	33.77	33.99	18.37	33.61	35.32	17.89	33.52	36.44	17.44	33.46	37.42
-	-	-	-	-	-	-	-	-	-	-	-	3.58	37.45	25.49	3.42	36.31	29.91
-	-	-	-	-	-	-	-	-	4.26	37.15	26.52	4.08	36.20	30.44	3.96	35.83	32.56
-	-	-	-	-	-	-	-	-	4.81	36.36	29.66	4.65	35.90	32.10	4.52	35.66	33.82
-	-	-	-	-	-	5.63	36.91	27.39	5.40	36.10	30.97	5.24	35.77	33.02	5.10	35.58	34.56
-	-	-	-	-	-	6.86	36.35	29.71	6.63	35.88	32.23	6.44	35.64	33.98	6.27	35.51	35.38
-	-	-	8.59	37.44	25.54	8.14	36.16	30.62	7.88	35.79	32.84	7.66	35.59	34.47	7.46	35.47	35.80
-	-	-	9.87	36.93	27.29	9.44	36.07	31.10	9.14	35.74	33.19	8.88	35.56	34.75	8.65	35.46	36.04
-	-	-	11.20	36.75	27.99	10.74	36.02	31.40	10.41	35.71	33.40	10.12	35.54	34.93	9.85	35.45	36.20
-	-	-	12.54	36.65	28.39	12.05	35.99	31.59	11.68	35.69	33.55	11.36	35.53	35.05	11.06	35.44	36.31
-	-	-	13.90	36.59	28.66	13.36	35.96	31.73	12.95	35.68	33.65	12.60	35.53	35.14	12.27	35.44	36.38
-	-	-	20.71	36.46	29.22	19.95	35.91	32.04	19.35	35.65	33.89	18.82	35.51	35.34	18.33	35.43	36.56
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.59	38.72	27.03
-	-	-	-	-	-	-	-	-	-	-	-	4.29	38.61	27.46	4.13	37.93	30.87
-	-	-	-	-	-	-	-	-	5.13	39.43	24.41	4.87	38.08	30.01	4.72	37.70	32.43
-	-	-	-	-	-	-	-	-	5.69	38.51	27.89	5.49	37.87	31.23	5.33	37.59	33.32
-	-	-	-	-	-	-	-	-	6.97	38.10	29.90	6.74	37.70	32.44	6.56	37.50	34.26
-	-	-	-	-	-	8.66	38.86	26.44	8.28	37.95	30.75	8.02	37.62	33.04	7.80	37.46	34.74
-	-	-	-	-	-	10.00	38.59	27.57	9.60	37.87	31.22	9.31	37.58	33.38	9.06	37.44	35.02
-	-	-	-	-	-	11.36	38.45	28.15	10.93	37.83	31.51	10.68	37.56	33.59	10.52	37.42	35.20
-	-	-	-	-	-	12.74	38.38	28.50	12.27	37.80	31.70	11.90	37.55	33.74	11.58	37.42	35.32
-	-	-	-	-	-	14.12	38.33	28.74	13.60	37.78	31.83	13.20	37.54	33.84	12.85	37.41	35.41
-	-	-	-	-	-	21.06	38.22	29.26	20.32	37.74	32.14	19.73	37.51	34.08	19.20	37.40	35.61
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.31	40.12	28.64
-	-	-	-	-	-	-	-	-	-	-	-	5.11	40.49	26.84	4.92	39.77	30.74
-	-	-	-	-	-	-	-	-	-	-	-	5.74	40.09	28.82	5.55	39.63	31.84
-	-	-	-	-	-	-	-	-	7.36	40.72	25.84	7.05	39.81	30.51	6.84	39.50	32.97
-	-	-	-	-	-	-	-	-	8.71	40.32	27.62	8.39	39.70	31.28	8.14	39.45	33.53
-	-	-	-	-	-	-	-	-	10.09	40.16	28.41	9.73	39.64	31.71	9.49	39.42	33.86
-	-	-	-	-	-	-	-	-	11.48	40.08	28.86	11.09	39.61	31.97	10.77	39.41	34.07
-	-	-	-	-	-	-	-	-	12.87	40.03	29.15	12.44	39.59	32.13	12.09	39.40	34.21
-	-	-	-	-	-	-	-	-	14.28	39.99	29.35	13.80	39.57	32.28	13.42	39.39	34.30
-	-	-	-	-	-	-	-	-	21.32	39.92	29.80	20.63	39.54	32.57	20.05	39.37	34.53
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.51	42.63	24.99
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.13	41.93	28.53
-	-	-	-	-	-	-	-	-	-	-	-	6.04	42.78	24.36	5.78	41.71	30.01
-	-	-	-	-	-	-	-	-	-	-	-	7.37	42.06	27.80	7.12	41.53	31.43
-	-	-	-	-	-	-	-	-	-	-	-	8.76	41.86	28.95	8.48	41.46	32.12
-	-	-	-	-	-	-	-	-	-	-	-	10.16	41.77	29.55	9.84	41.42	32.51
-	-	-	-	-	-	-	-	-	-	-	-	11.57	41.72	29.91	11.22	41.40	32.75
-	-	-	-	-	-	-	-	-	13.44	42.92	23.82	12.99	41.69	30.15	12.59	41.39	32.92
-	-	-	-	-	-	-	-	-	15.08	42.72	24.63	14.40	41.66	30.31	13.97	41.38	33.03
-	-	-	-	-	-	-	-	-	22.43	42.44	25.86	21.52	41.62	30.69	20.89	41.36	33.30

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(1) $\epsilon_p = 45°$; $\Gamma = 20°$; $\epsilon_r = 21.34°$

				$\gamma_e = \gamma_\infty = 1.67$							$\gamma_e = \gamma_\infty = 1.40$						
α, deg	δ_N, deg	ϵ_e, deg	M_∞	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	2.52	48.15	3.0	48.12	21.02	1.08	1.78	47.50	1.20	.8980	2.86	48.13	20.85	1.07	1.98	47.50	1.16	.8975	2.90
			4.0	48.13	15.92	1.10	1.93	47.68	1.25	.8735	3.79	48.14	15.76	1.09	1.93	47.69	1.21	.8724	3.86
			5.0	48.14	12.94	1.12	1.91	47.78	1.32	.8484	4.70	48.14	12.79	1.11	1.91	47.79	1.26	.8468	4.80
			6.0	48.14	10.99	1.14	1.90	47.85	1.38	.8239	5.58	48.15	10.84	1.13	1.90	47.85	1.32	.8216	5.73
			7.0	48.14	9.60	1.17	1.89	47.89	1.46	.8001	6.45	48.15	9.45	1.15	1.89	47.89	1.38	.7971	6.65
			8.0	48.14	8.58	1.19	1.89	47.92	1.53	.7773	7.31	48.15	8.42	1.17	1.89	47.93	1.44	.7734	7.56
			10.0	48.14	7.15	1.24	1.89	47.97	1.69	.7345	8.95	48.15	6.99	1.22	1.89	47.97	1.56	.7287	9.34
			12.0	48.14	6.21	1.30	1.88	47.99	1.86	.6953	10.53	48.15	6.05	1.27	1.88	48.00	1.70	.6874	11.07
			14.0	48.14	5.55	1.35	1.88	48.01	2.04	.6596	12.03	48.15	5.39	1.31	1.88	48.02	1.85	.6494	12.75
			16.0	48.14	5.06	1.41	1.88	48.03	2.24	.6271	13.47	48.15	4.89	1.36	1.88	48.03	2.00	.6144	14.38
			18.0	48.14	4.68	1.47	1.88	48.04	2.45	.5976	14.84	48.15	4.51	1.42	1.88	48.04	2.17	.5823	15.97
			20.0	48.14	4.39	1.53	1.88	48.05	2.68	.5707	16.14	48.15	4.21	1.47	1.88	48.05	2.35	.5528	17.51
			30.0	48.14	3.54	1.85	1.88	48.07	4.05	.4689	21.74	48.15	3.35	1.75	1.88	48.08	3.41	.4381	24.49
4	5.10	47.55	3.0	47.43	22.69	1.16	3.98	46.14	1.42	.8103	2.72	47.48	22.33	1.14	3.97	46.17	1.35	.8082	2.80
			4.0	47.48	17.49	1.20	3.86	46.55	1.56	.7694	3.59	47.52	17.15	1.18	3.86	46.57	1.46	.7656	3.72
			5.0	47.50	14.49	1.25	3.82	46.76	1.71	.7292	4.41	47.53	14.16	1.22	3.82	46.78	1.58	.7235	4.61
			6.0	47.51	12.55	1.30	3.80	46.89	1.88	.6916	5.20	47.53	12.21	1.27	3.80	46.91	1.71	.6836	5.48
			7.0	47.51	11.19	1.36	3.79	46.98	2.06	.6569	5.96	47.53	10.85	1.32	3.78	47.00	1.86	.6467	6.32
			8.0	47.51	10.19	1.42	3.78	47.04	2.25	.6250	6.68	47.54	9.84	1.37	3.78	47.06	2.01	.6124	7.14
			10.0	47.52	8.82	1.53	3.77	47.13	2.69	.5694	8.01	47.54	8.44	1.47	3.77	47.15	2.36	.5517	8.70
			12.0	47.52	7.94	1.66	3.77	47.18	3.19	.5233	9.22	47.54	7.57	1.58	3.77	47.20	2.75	.5003	10.17
			14.0	47.52	7.34	1.79	3.76	47.22	3.75	.4851	10.31	47.54	6.95	1.69	3.76	47.24	3.18	.4569	11.54
			16.0	47.52	6.91	1.92	3.76	47.24	4.38	.4533	11.29	47.54	6.51	1.81	3.76	47.27	3.67	.4202	12.82
			18.0	47.52	6.58	2.06	3.76	47.26	5.07	.4269	12.16	47.54	6.17	1.93	3.76	47.29	4.20	.3892	14.01
			20.0	47.52	6.32	2.21	3.76	47.28	5.84	.4048	12.94	47.54	5.91	2.06	3.76	47.31	4.79	.3629	15.10
			30.0	47.52	5.67	2.97	3.76	47.32	10.75	.3361	15.71	47.54	5.22	2.73	3.76	47.35	8.51	.2787	19.40
6	7.72	47.01	3.0	46.75	24.51	1.24	5.99	44.71	1.69	.7346	2.59	46.85	23.91	1.22	5.96	44.80	1.56	.7305	2.70
			4.0	46.86	19.19	1.32	5.80	45.38	1.91	.6840	3.40	46.93	18.64	1.28	5.79	45.44	1.74	.6765	3.58
			5.0	46.89	16.20	1.39	5.73	45.71	2.18	.6360	4.14	46.96	15.65	1.35	5.72	45.77	1.96	.6248	4.42
			6.0	46.91	14.28	1.48	5.70	45.91	2.49	.5929	4.84	46.97	13.72	1.42	5.69	45.97	2.20	.5779	5.22
			7.0	46.92	12.96	1.57	5.68	46.05	2.83	.5550	5.49	46.97	12.39	1.50	5.67	46.10	2.47	.5361	5.99
			8.0	46.93	12.00	1.66	5.67	46.14	3.21	.5218	6.09	46.98	11.42	1.58	5.66	46.20	2.76	.4989	6.72
			10.0	46.93	10.71	1.86	5.66	46.27	4.07	.4677	7.15	46.98	10.11	1.76	5.65	46.33	3.43	.4371	8.07
			12.0	46.94	9.91	2.07	5.65	46.34	5.09	.4264	8.05	46.98	9.29	1.94	5.65	46.40	4.21	.3889	9.28
			14.0	46.94	9.38	2.28	5.65	46.40	6.26	.3948	8.80	46.98	8.73	2.13	5.64	46.46	5.10	.3512	10.35
			16.0	46.94	9.00	2.50	5.65	46.43	7.59	.3704	9.44	46.98	8.34	2.32	5.64	46.49	6.12	.3214	11.30
			18.0	46.94	8.73	2.73	5.64	46.46	9.09	.3512	9.97	46.98	8.05	2.52	5.64	46.52	7.25	.2977	12.14
			20.0	46.94	8.53	2.97	5.64	46.48	10.75	.3361	10.42	46.98	7.84	2.73	5.64	46.54	8.51	.2787	12.87
			30.0	46.94	8.01	4.18	5.64	46.53	21.60	.2938	11.80	46.98	7.28	3.80	5.64	46.59	16.70	.2243	15.38
8	10.38	46.53	3.0	46.00	26.49	1.34	8.04	43.18	1.99	.6693	2.45	46.23	25.60	1.30	7.98	43.35	1.79	.6628	2.60
			4.0	46.24	21.04	1.44	7.75	44.16	2.33	.6141	3.21	46.39	20.23	1.38	7.72	44.29	2.07	.6022	3.45
			5.0	46.32	18.05	1.55	7.65	44.62	2.75	.5632	3.88	46.43	17.25	1.48	7.63	44.74	2.40	.5459	4.23
			6.0	46.35	16.16	1.67	7.60	44.90	3.24	.5194	4.49	46.45	15.35	1.59	7.59	45.01	2.78	.4968	4.97
			7.0	46.37	14.89	1.80	7.58	45.08	3.79	.4825	5.04	46.46	14.06	1.70	7.56	45.19	3.21	.4548	5.66
			8.0	46.38	13.97	1.93	7.56	45.21	4.42	.4516	5.53	46.47	13.13	1.82	7.55	45.32	3.69	.4189	6.30
			10.0	46.39	12.78	2.21	7.55	45.37	5.87	.4040	6.36	46.48	11.91	2.06	7.54	45.48	4.80	.3625	7.44
			12.0	46.40	12.06	2.51	7.54	45.46	7.61	.3701	7.01	46.48	11.15	2.32	7.53	45.58	6.12	.3213	8.41
			14.0	46.40	11.59	2.81	7.53	45.53	9.64	.3457	7.53	46.48	10.66	2.59	7.53	45.65	7.66	.2909	9.23
			16.0	46.40	11.26	3.13	7.53	45.57	11.97	.3276	7.94	46.48	10.32	2.87	7.52	45.69	9.41	.2681	9.92
			18.0	46.40	11.03	3.44	7.53	45.60	14.59	.3141	8.27	46.48	10.07	3.15	7.52	45.73	11.39	.2508	10.49
			20.0	46.41	10.86	3.77	7.53	45.62	17.52	.3037	8.53	46.48	9.89	3.44	7.52	45.75	13.60	.2373	10.98
			30.0	46.41	10.44	5.43	7.52	45.68	36.70	.2763	9.28	46.48	9.43	4.92	7.52	45.81	28.03	.2011	12.47
10	13.09	46.11	3.0	45.19	28.67	1.44	10.16	41.47	2.34	.6124	2.32	45.61	27.41	1.38	10.03	41.81	2.06	.6035	2.50
			4.0	45.64	23.03	1.57	9.72	42.85	2.81	.5568	3.02	45.88	21.93	1.49	9.66	43.09	2.44	.5402	3.31
			5.0	45.77	20.04	1.71	9.58	43.47	3.42	.5062	3.83	45.96	18.95	1.62	9.54	43.69	2.91	.4828	4.05
			6.0	45.82	18.19	1.87	9.51	43.83	4.14	.4644	4.16	45.99	17.10	1.76	9.48	44.03	3.46	.4345	4.72
			7.0	45.85	16.96	2.04	9.48	44.06	4.97	.4306	4.62	46.01	15.85	1.91	9.45	44.26	4.10	.3947	5.33
			8.0	45.87	16.10	2.22	9.46	44.21	5.90	.4032	5.02	46.02	14.96	2.07	9.44	44.41	4.81	.3620	5.88
			10.0	45.89	14.99	2.59	9.44	44.41	8.12	.3629	5.66	46.03	13.82	2.39	9.42	44.61	6.49	.3127	6.84
			12.0	45.90	14.33	2.97	9.43	44.53	10.79	.3358	6.13	46.03	13.13	2.73	9.41	44.73	8.51	.2788	7.60
			14.0	45.90	13.91	3.37	9.42	44.60	13.92	.3171	6.49	46.03	12.69	3.08	9.41	44.81	10.87	.2548	8.22
			16.0	45.91	13.63	3.77	9.42	44.65	17.53	.3036	6.76	46.04	12.39	3.43	9.40	44.86	13.58	.2374	8.72
			18.0	45.91	13.43	4.18	9.42	44.68	21.61	.2938	6.97	46.04	12.18	3.80	9.40	44.89	16.65	.2245	9.11
			20.0	45.91	13.28	4.59	9.41	44.71	26.16	.2864	7.13	46.04	12.02	4.16	9.40	44.92	20.07	.2147	9.43
			30.0	45.92	12.92	6.71	9.41	44.77	56.06	.2676	7.56	46.04	11.63	6.05	9.40	44.99	42.52	.1894	10.36
12	15.83	45.76	3.0	44.23	31.14	1.55	12.38	39.47	2.76	.5621	2.18	44.97	29.38	1.47	12.13	40.12	2.36	.5514	2.40
			4.0	45.02	25.18	1.70	11.71	41.43	3.37	.5095	2.84	45.41	23.72	1.61	11.61	41.83	2.86	.4884	3.17
			5.0	45.23	22.17	1.89	11.52	42.23	4.20	.4614	3.38	45.53	20.75	1.77	11.45	42.58	3.50	.4322	3.86
			6.0	45.32	20.35	2.09	11.44	42.68	5.20	.4230	3.84	45.58	18.94	1.95	11.38	43.01	4.26	.3865	4.46
			7.0	45.36	19.16	2.30	11.39	42.96	6.35	.3928	4.22	45.60	17.73	2.13	11.35	43.28	5.14	.3500	5.00
			8.0	45.39	18.34	2.52	11.37	43.14	7.68	.3691	4.54	45.62	16.89	2.32	11.33	43.47	6.14	.3209	5.48
			10.0	45.42	17.31	2.97	11.34	43.38	10.82	.3356	5.04	45.63	15.82	2.73	11.31	43.70	8.51	.2788	6.27
			12.0	45.44	16.70	3.45	11.32	43.51	14.63	.3139	5.39	45.64	15.19	3.14	11.30	43.84	11.37	.2509	6.87
			14.0	45.45	16.33	3.94	11.32	43.59	19.12	.2993	5.64	45.64	14.79	3.57	11.29	43.92	14.74	.2319	7.33
			16.0	45.45	16.07	4.43	11.31	43.65	24.29	.2891	5.82	45.65	14.53	4.01	11.29	43.98	18.62	.2184	7.69
			18.0	45.46	15.89	4.93	11.31	43.69	30.15	.2818	5.96	45.65	14.34	4.46	11.28	44.02	23.01	.2086	7.97
			20.0	45.46	15.76	5.43	11.30	43.71	36.68	.2763	6.06	45.65	14.20	4.91	11.28	44.05	27.91	.2013	8.19
			30.0	45.47	15.45	7.99	11.30	43.78	79.67	.2627	6.34	45.65	13.86	7.19	11.28	44.12	60.10	.1828	8.80
14	18.60	45.47	3.0	42.88	34.14	1.68	14.89	36.88	3.30	.5152	2.02	44.24	31.54	1.57	14.32	38.19	2.71	.5050	2.29
			4.0	44.36	27.53	1.85	13.76	39.82	4.02	.4701	2.66	44.96	25.63	1.73	13.58	40.47	3.33	.4450	3.03
			5.0	44.69	24.45	2.07	13.49	40.86	5.10	.4259	3.14	45.14	22.65	1.93	13.38	41.41	4.16	.3914	3.66
			6.0	44.83	22.65	2.31	13.38	41.41	6.43	.3913	3.54	45.21	20.87	2.14	13.29	41.93	5.16	.3491	4.21
			7.0	44.90	21.49	2.56	13.32	41.75	7.98	.3648	3.86	45.25	19.71	2.36	13.25	42.25	6.33	.3162	4.69
			8.0	44.94	20.70	2.83	13.28	41.98	9.75	.3446	4.12	45.27	18.91	2.59	13.22	42.47	7.67	.2907	5.09
			10.0	44.99	19.72	3.37	13.25	42.25	14.00	.3167	4.50	45.29	17.90	3.07	13.19	42.74	10.85	.2549	5.74
			12.0	45.01	19.16	3.94	13.23	42.40	19.16	.2992	4.76	45.30	17.32	3.57	13.18	42.89	14.72	.2320	6.22
			14.0	45.02	18.82	4.52	13.22	42.49	25.25	.2877	4.94	45.31	16.95	4.08	13.17	42.98	19.27	.2167	6.57
			16.0	45.03	18.58	5.10	13.21	42.55	32.28	.2797	5.07	45.32	16.71	4.60	13.17	43.04	24.52	.2060	6.83
			18.0	45.04	18.42	5.69	13.21	42.60	40.23	.2741	5.16	45.32	16.54	5.12	13.17	43.09	30.46	.1984	7.03
			20.0	45.04	18.31	6.28	13.20	42.63	49.12	.2699	5.24	45.32	16.41	5.65	13.16	43.12	37.10	.1928	7.19
			30.0	45.05	18.03	9.28	13.20	42.70	107.66	.2596	5.42	45.33	16.12	8.33	13.16	43.20	80.74	.1787	7.60

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(f) $\epsilon_p = 45°$; $\Gamma = 20°$; $\epsilon_r = 21.34°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.07	1.98	47.50	1.06	1.98	47.50	1.06	1.98	47.51	1.06	1.98	47.51	1.06	1.98	47.51	1.06	1.98	47.51
1.08	1.93	47.69	1.08	1.93	47.69	1.08	1.93	47.69	1.08	1.93	47.69	1.08	1.93	47.69	1.08	1.93	47.70
1.10	1.91	47.79	1.10	1.91	47.79	1.10	1.91	47.79	1.10	1.91	47.79	1.10	1.91	47.79	1.09	1.91	47.79
1.13	1.90	47.85	1.12	1.90	47.85	1.12	1.90	47.86	1.12	1.90	47.86	1.11	1.90	47.86	1.11	1.90	47.86
1.15	1.89	47.90	1.14	1.89	47.90	1.14	1.89	47.90	1.14	1.89	47.90	1.13	1.89	47.90	1.13	1.89	47.90
1.17	1.89	47.93	1.16	1.89	47.93	1.16	1.89	47.93	1.16	1.89	47.93	1.15	1.89	47.93	1.15	1.89	47.93
1.21	1.89	47.97	1.21	1.89	47.97	1.20	1.89	47.97	1.20	1.89	47.97	1.19	1.89	47.97	1.19	1.89	47.98
1.26	1.88	48.00	1.25	1.88	48.00	1.25	1.88	48.00	1.24	1.88	48.00	1.23	1.88	48.00	1.23	1.88	48.00
1.31	1.88	48.02	1.30	1.88	48.02	1.29	1.88	48.02	1.28	1.88	48.02	1.28	1.88	48.02	1.27	1.88	48.02
1.36	1.88	48.03	1.35	1.88	48.03	1.34	1.88	48.04	1.33	1.88	48.04	1.32	1.88	48.04	1.31	1.88	48.04
1.41	1.88	48.05	1.40	1.88	48.05	1.39	1.88	48.05	1.38	1.88	48.05	1.37	1.88	48.05	1.36	1.88	48.05
1.46	1.88	48.05	1.45	1.88	48.06	1.44	1.88	48.06	1.42	1.88	48.06	1.41	1.88	48.06	1.40	1.88	48.06
1.73	1.88	48.08	1.72	1.88	48.08	1.70	1.88	48.08	1.68	1.88	48.08	1.66	1.88	48.08	1.64	1.88	48.08
1.14	3.96	46.18	1.13	3.96	46.18	1.13	3.96	46.19	1.13	3.96	46.19	1.12	3.96	46.20	1.12	3.96	46.20
1.18	3.86	46.58	1.17	3.85	46.58	1.17	3.85	46.59	1.16	3.85	46.59	1.16	3.85	46.59	1.16	3.85	46.60
1.22	3.81	46.78	1.21	3.81	46.79	1.21	3.81	46.79	1.20	3.81	46.80	1.20	3.81	46.80	1.19	3.81	46.81
1.26	3.79	46.91	1.26	3.79	46.92	1.25	3.79	46.92	1.24	3.79	46.93	1.24	3.79	46.93	1.23	3.79	46.93
1.31	3.78	47.00	1.30	3.78	47.01	1.30	3.78	47.01	1.29	3.78	47.01	1.28	3.78	47.02	1.27	3.78	47.02
1.36	3.78	47.07	1.35	3.78	47.07	1.34	3.78	47.07	1.33	3.78	47.08	1.32	3.78	47.08	1.32	3.77	47.09
1.46	3.77	47.15	1.45	3.77	47.16	1.44	3.77	47.16	1.43	3.77	47.17	1.42	3.77	47.17	1.40	3.77	47.17
1.57	3.77	47.21	1.55	3.77	47.21	1.54	3.76	47.22	1.52	3.76	47.22	1.51	3.76	47.22	1.50	3.76	47.23
1.68	3.76	47.25	1.66	3.76	47.25	1.64	3.76	47.26	1.63	3.76	47.26	1.61	3.76	47.26	1.59	3.76	47.27
1.79	3.76	47.27	1.77	3.76	47.28	1.75	3.76	47.28	1.73	3.76	47.29	1.71	3.76	47.29	1.69	3.76	47.30
1.91	3.76	47.29	1.89	3.76	47.30	1.87	3.76	47.30	1.84	3.76	47.31	1.82	3.76	47.31	1.80	3.76	47.32
2.03	3.76	47.31	2.01	3.76	47.31	1.98	3.76	47.32	1.95	3.76	47.32	1.93	3.76	47.33	1.90	3.76	47.33
2.68	3.76	47.35	2.64	3.76	47.36	2.60	3.76	47.36	2.56	3.76	47.37	2.51	3.76	47.37	2.47	3.76	47.38
1.21	5.96	44.81	1.21	5.95	44.83	1.20	5.95	44.84	1.20	5.95	44.85	1.19	5.94	44.87	1.19	5.94	44.88
1.27	5.78	45.45	1.27	5.78	45.47	1.26	5.78	45.48	1.25	5.78	45.49	1.25	5.77	45.50	1.24	5.77	45.51
1.34	5.72	45.78	1.33	5.72	45.79	1.32	5.72	45.80	1.32	5.71	45.81	1.31	5.71	45.82	1.30	5.71	45.83
1.41	5.69	45.98	1.40	5.69	45.99	1.39	5.69	46.00	1.38	5.68	46.01	1.37	5.68	46.02	1.36	5.68	46.03
1.49	5.67	46.11	1.48	5.67	46.12	1.47	5.67	46.13	1.45	5.67	46.14	1.44	5.67	46.15	1.43	5.67	46.16
1.57	5.66	46.21	1.55	5.66	46.22	1.54	5.66	46.23	1.53	5.66	46.24	1.51	5.66	46.25	1.50	5.66	46.26
1.74	5.65	46.34	1.72	5.65	46.35	1.70	5.65	46.36	1.68	5.65	46.37	1.66	5.65	46.38	1.64	5.65	46.39
1.91	5.65	46.42	1.89	5.65	46.43	1.87	5.65	46.44	1.84	5.64	46.45	1.82	5.64	46.46	1.80	5.64	46.47
2.10	5.64	46.47	2.07	5.64	46.48	2.04	5.64	46.49	2.01	5.64	45.50	1.98	5.64	46.51	1.96	5.64	46.52
2.29	5.64	46.51	2.25	5.64	46.52	2.22	5.64	46.53	2.19	5.64	46.54	2.16	5.64	46.55	2.12	5.64	46.56
2.68	5.64	46.53	2.65	5.64	46.54	2.61	5.64	46.56	2.57	5.64	46.57	2.53	5.64	46.58	2.29	5.64	46.59
2.68	5.64	46.55	2.64	5.64	46.57	2.60	5.64	46.58	2.55	5.64	46.59	2.51	5.64	46.60	2.47	5.64	46.61
3.73	5.64	46.61	3.66	5.64	46.62	3.59	5.64	46.63	3.53	5.64	46.64	3.46	5.64	46.66	3.39	5.64	46.67
1.29	7.97	43.39	1.28	7.96	43.42	1.27	7.95	43.44	1.27	7.94	43.47	1.26	7.93	43.50	1.25	7.93	43.53
1.37	7.71	44.31	1.36	7.71	44.33	1.35	7.70	44.36	1.35	7.70	44.38	1.34	7.69	44.40	1.33	7.69	44.42
1.47	7.62	44.76	1.46	7.62	44.78	1.45	7.62	44.81	1.43	7.61	44.83	1.42	7.61	44.85	1.41	7.61	44.87
1.57	7.58	45.03	1.56	7.58	45.05	1.54	7.58	45.07	1.53	7.58	45.09	1.52	7.57	45.11	1.50	7.57	45.13
1.68	7.56	45.21	1.67	7.56	45.23	1.65	7.56	45.25	1.63	7.55	45.27	1.61	7.55	45.29	1.60	7.55	45.31
1.80	7.55	45.34	1.78	7.55	45.36	1.76	7.54	45.38	1.74	7.54	45.40	1.72	7.54	45.42	1.70	7.54	45.44
2.04	7.53	45.51	2.01	7.53	45.53	1.98	7.53	45.55	1.96	7.53	45.57	1.93	7.53	45.59	1.90	7.53	45.61
2.29	7.53	45.61	2.25	7.53	45.63	2.22	7.53	45.65	2.19	7.52	45.67	2.16	7.52	45.69	2.12	7.52	45.71
2.55	7.52	45.67	2.51	7.52	45.69	2.47	7.52	45.71	2.43	7.52	45.74	2.39	7.52	45.76	2.35	7.52	45.78
2.82	7.52	45.72	2.77	7.52	45.74	2.72	7.52	45.76	2.68	7.52	45.78	2.63	7.52	45.80	2.59	7.52	45.83
3.09	7.52	45.75	3.04	7.52	45.77	2.99	7.52	45.79	2.93	7.52	45.82	2.88	7.52	45.84	2.83	7.52	45.86
3.37	7.52	45.77	3.31	7.52	45.80	3.25	7.52	45.82	3.19	7.52	45.84	3.13	7.52	45.86	3.07	7.52	45.89
4.82	7.52	45.83	4.73	7.52	45.86	4.63	7.52	45.88	4.54	7.52	45.90	4.44	7.52	45.93	4.35	7.52	45.95
1.37	10.01	41.87	1.36	9.99	41.93	1.35	9.97	41.98	1.34	9.96	42.03	1.33	9.94	42.09	1.32	9.92	42.14
1.48	9.65	43.13	1.47	9.64	43.17	1.46	9.63	43.21	1.44	9.62	43.25	1.43	9.61	43.29	1.42	9.61	43.33
1.61	9.53	43.72	1.59	9.52	43.76	1.58	9.52	43.79	1.56	9.51	43.83	1.54	9.51	43.87	1.53	9.50	43.90
1.74	9.48	44.07	1.72	9.47	44.10	1.71	9.47	44.14	1.69	9.46	44.17	1.67	9.46	44.21	1.65	9.46	44.24
1.89	9.45	44.29	1.86	9.45	44.33	1.84	9.44	44.36	1.82	9.44	44.40	1.80	9.44	44.43	1.77	9.43	44.47
2.04	9.43	44.45	2.01	9.43	44.49	1.98	9.43	44.52	1.96	9.42	44.56	1.93	9.42	44.59	1.90	9.42	44.62
2.35	9.42	44.65	2.32	9.41	44.69	2.28	9.41	44.72	2.25	9.41	44.76	2.21	9.41	44.79	2.18	9.41	44.83
2.68	9.41	44.77	2.64	9.41	44.81	2.59	9.41	44.84	2.55	9.40	44.88	2.51	9.40	44.91	2.47	9.40	44.95
3.02	9.41	44.84	2.97	9.40	44.88	2.92	9.40	44.92	2.87	9.40	44.95	2.81	9.40	44.99	2.76	9.40	45.03
3.37	9.40	44.90	3.31	9.40	44.93	3.25	9.40	44.97	3.19	9.40	45.01	3.13	9.40	45.04	3.07	9.40	45.08
3.73	9.40	44.93	3.66	9.40	44.97	3.59	9.40	45.01	3.52	9.40	45.05	3.45	9.40	45.08	3.38	9.39	45.12
4.09	9.40	44.96	4.01	9.40	45.00	3.93	9.40	45.04	3.85	9.40	45.07	3.78	9.39	45.11	3.70	9.39	45.15
5.93	9.40	45.02	5.81	9.40	45.06	5.69	9.39	45.10	5.57	9.39	45.14	5.45	9.39	45.18	5.33	9.39	45.22
1.46	12.09	40.22	1.44	12.06	40.32	1.43	12.03	40.42	1.42	11.99	40.51	1.41	11.96	40.59	1.39	11.94	40.68
1.59	11.59	41.90	1.58	11.58	41.96	1.56	11.56	42.03	1.55	11.55	42.09	1.53	11.54	42.15	1.51	11.52	42.21
1.75	11.44	42.64	1.73	11.43	42.70	1.71	11.42	42.76	1.69	11.41	42.81	1.67	11.40	42.87	1.65	11.40	42.93
1.92	11.38	43.07	1.90	11.37	43.12	1.87	11.36	43.18	1.85	11.35	43.23	1.82	11.35	43.29	1.80	11.34	43.34
2.10	11.34	43.34	2.07	11.34	43.40	2.04	11.33	43.45	2.01	11.32	43.50	1.99	11.32	43.56	1.96	11.31	43.61
2.29	11.32	43.53	2.26	11.32	43.58	2.22	11.31	43.64	2.19	11.31	43.69	2.15	11.30	43.74	2.12	11.30	43.80
2.68	11.30	43.76	2.64	11.30	43.82	2.59	11.29	43.87	2.55	11.29	43.93	2.51	11.29	43.98	2.46	11.28	44.03
3.09	11.29	43.89	3.04	11.29	43.95	2.98	11.28	44.01	2.93	11.28	44.06	2.87	11.28	44.12	2.82	11.28	44.17
3.51	11.29	43.98	3.44	11.28	44.04	3.38	11.28	44.09	3.32	11.28	44.15	3.25	11.28	44.21	3.19	11.27	44.26
3.94	11.28	44.06	3.86	11.28	44.09	3.79	11.28	44.15	3.71	11.27	44.21	3.64	11.27	44.27	3.57	11.27	44.32
4.37	11.28	44.08	4.29	11.28	44.14	4.20	11.28	44.19	4.12	11.27	44.25	4.03	11.27	44.31	3.95	11.27	44.36
4.81	11.28	44.11	4.71	11.28	44.16	4.62	11.27	44.22	4.52	11.27	44.28	4.43	11.27	44.34	4.34	11.27	44.39
7.04	11.28	44.18	6.89	11.27	44.24	6.75	11.27	44.30	6.60	11.27	44.35	6.46	11.27	44.41	6.31	11.27	44.47
1.55	14.25	38.37	1.53	14.19	38.54	1.52	14.13	38.70	1.50	14.07	38.85	1.48	14.02	38.99	1.47	13.98	39.13
1.71	13.55	40.58	1.69	13.53	40.68	1.67	13.51	40.79	1.65	13.48	40.88	1.63	13.46	40.98	1.61	13.44	41.07
1.90	13.36	41.50	1.88	13.34	41.59	1.85	13.33	41.68	1.83	13.31	41.77	1.80	13.30	41.85	1.78	13.29	41.93
2.11	13.28	42.02	2.08	13.26	42.10	2.05	13.25	42.19	2.02	13.24	42.27	1.99	13.23	42.35	1.96	13.22	42.43
2.32	13.23	42.34	2.29	13.23	42.42	2.25	13.22	42.50	2.22	13.21	42.58	2.18	13.20	42.66	2.15	13.19	42.74
2.55	13.21	42.55	2.51	13.20	42.64	2.47	13.19	42.72	2.43	13.19	42.80	2.39	13.18	42.88	2.35	13.18	42.96
3.02	13.19	42.82	2.97	13.18	42.90	2.91	13.17	42.99	2.86	13.17	43.07	2.81	13.16	43.15	2.76	13.16	43.23
3.51	13.17	42.97	3.44	13.17	43.06	3.38	13.16	43.14	3.31	13.16	43.22	3.25	13.15	43.30	3.18	13.15	43.38
4.00	13.17	43.07	3.93	13.16	43.15	3.85	13.16	43.24	3.77	13.15	43.32	3.70	13.15	43.40	3.62	13.15	43.48
4.51	13.16	43.13	4.42	13.16	43.22	4.33	13.16	43.30	4.24	13.15	43.38	4.16	13.15	43.46	4.07	13.15	43.54
5.02	13.16	43.17	4.92	13.16	43.26	4.82	13.15	43.34	4.72	13.15	43.43	4.62	13.15	43.51	4.52	13.14	43.59
5.54	13.16	43.21	5.42	13.16	43.29	5.31	13.15	43.38	5.20	13.15	43.46	5.09	13.15	43.54	4.98	13.14	43.62
8.15	13.16	43.28	7.98	13.15	43.37	7.81	13.15	43.45	7.64	13.15	43.54	7.47	13.14	43.62	7.30	13.14	43.70

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(I) $\epsilon_p = 45°$; $\Gamma = 20°$; $\epsilon_r = 21.34°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	21.39	45.25	3.0	-	-	-	-	-	-	-	-	43.31	34.03	1.68	16.70	35.81	3.12	.4622	2.17
			4.0	43.58	30.12	2.01	15.90	37.91	4.79	.4369	2.47	44.52	27.66	1.86	15.58	38.99	3.86	.4084	2.89
			5.0	44.12	26.90	2.26	15.50	39.30	6.15	.3974	2.91	44.78	24.65	2.09	15.31	40.15	4.91	.3583	3.47
			6.0	44.33	25.08	2.54	15.34	39.99	7.84	.3667	3.25	44.89	22.89	2.33	15.20	40.77	6.19	.3197	3.97
			7.0	44.44	23.94	2.84	15.26	40.40	9.84	.3438	3.52	44.94	21.76	2.60	15.15	41.15	7.69	.2904	4.38
			8.0	44.50	23.18	3.15	15.22	40.67	12.15	.3265	3.73	44.97	20.99	2.87	15.12	41.40	9.41	.2681	4.73
			10.0	44.57	22.24	3.78	15.17	40.99	17.67	.3032	4.03	45.01	20.04	3.43	15.08	41.70	13.53	.2376	5.26
			12.0	44.61	21.71	4.44	15.15	41.17	24.40	.2890	4.23	45.02	19.49	4.00	15.07	41.87	18.54	.2186	5.63
			14.0	44.63	21.38	5.10	15.13	41.27	32.34	.2797	4.36	45.03	19.16	4.59	15.06	41.98	24.46	.2061	5.90
			16.0	44.64	21.17	5.78	15.12	41.34	41.50	.2734	4.45	45.04	18.93	5.19	15.06	42.05	31.27	.1976	6.10
			18.0	44.65	21.02	6.46	15.12	41.39	51.88	.2689	4.52	45.04	18.78	5.79	15.05	42.09	39.00	.1915	6.25
			20.0	44.65	20.91	7.14	15.11	41.43	63.48	.2656	4.57	45.05	18.66	6.40	15.05	42.13	47.62	.1870	6.36
			30.0	44.67	20.65	10.58	15.10	41.51	139.8	.2578	4.70	45.05	18.39	9.47	15.04	42.21	104.4	.1760	6.65
18	24.20	45.10	3.0	-	-	-	-	-	-	-	-	41.62	37.41	1.82	19.70	32.15	3.71	.4175	2.01
			4.0	42.51	33.15	2.19	18.25	35.44	5.73	.4075	2.27	44.06	29.83	1.99	17.63	37.31	4.45	.3772	2.74
			5.0	43.46	29.57	2.47	17.59	37.44	7.37	.3740	2.68	44.45	26.75	2.25	17.27	38.77	5.74	.3312	3.28
			6.0	43.87	27.69	2.79	17.36	38.34	9.47	.3473	2.98	44.60	25.02	2.54	17.13	39.51	7.33	.2963	3.72
			7.0	43.96	26.54	3.13	17.25	38.86	11.99	.3275	3.20	44.68	23.89	2.83	17.06	39.95	9.21	.2704	4.09
			8.0	44.16	25.78	3.48	17.19	39.18	14.89	.3128	3.38	44.72	23.14	3.14	17.02	40.24	11.37	.2509	4.38
			10.0	44.16	24.86	4.20	17.12	39.56	21.86	.2933	3.62	44.77	22.23	3.78	16.98	40.59	16.54	.2249	4.82
			12.0	44.21	24.35	4.95	17.09	39.77	30.37	.2815	3.77	44.79	21.72	4.44	16.96	40.78	22.84	.2089	5.12
			14.0	44.24	24.04	5.70	17.07	39.90	40.42	.2740	3.87	44.81	21.40	5.11	16.95	40.90	30.28	.1986	5.33
			16.0	44.26	23.83	6.46	17.06	39.98	52.02	.2689	3.94	44.82	21.19	5.78	16.94	40.97	38.87	.1916	5.48
			18.0	44.27	23.69	7.23	17.05	40.03	65.17	.2653	3.99	44.82	21.05	6.46	16.94	41.03	48.59	.1866	5.59
			20.0	44.28	23.59	8.00	17.04	40.07	79.86	.2626	4.03	44.83	20.94	7.15	16.94	41.06	59.46	.1830	5.68
			30.0	44.30	23.34	11.99	17.03	40.17	176.5	.2562	4.12	44.83	20.69	10.60	16.93	41.15	130.9	.1741	5.89
20	27.03	45.02	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	39.62	38.12	2.47	21.77	30.43	7.38	.3738	1.98	43.54	32.20	2.13	19.76	35.33	5.13	.3501	2.59
			5.0	42.56	32.62	2.70	19.85	35.06	8.84	.3541	2.44	44.13	28.96	2.42	19.26	37.21	6.67	.3089	3.09
			6.0	43.14	30.54	3.05	19.48	36.34	11.38	.3315	2.71	44.35	27.19	2.74	19.08	38.11	8.60	.2775	3.49
			7.0	43.44	29.33	3.43	19.31	37.01	14.46	.3146	2.91	44.45	26.10	3.08	18.99	38.64	10.89	.2546	3.80
			8.0	43.55	28.55	3.82	19.21	37.43	18.03	.3022	3.05	44.51	25.37	3.43	18.94	38.97	13.54	.2376	4.06
			10.0	43.71	27.67	4.64	19.12	37.90	26.64	.2858	3.25	44.58	24.48	4.14	18.89	39.37	19.87	.2152	4.42
			12.0	43.78	27.11	5.47	19.07	38.15	37.16	.2760	3.37	44.61	23.99	4.88	18.86	39.59	27.61	.2017	4.66
			14.0	43.83	26.80	6.31	19.04	38.30	49.60	.2697	3.45	44.63	23.69	5.62	18.85	39.72	36.75	.1930	4.85
			16.0	43.85	26.60	7.16	19.03	38.40	63.96	.2655	3.50	44.64	23.49	6.38	18.84	39.80	47.29	.1872	4.98
			18.0	43.87	26.46	8.02	19.02	38.47	80.23	.2626	3.54	44.65	23.35	7.14	18.83	39.86	59.23	.1830	5.08
			20.0	43.89	26.36	8.88	19.01	38.51	98.42	.2604	3.57	44.66	23.25	7.90	18.83	39.90	72.58	.1800	5.16
			30.0	43.92	26.13	13.21	18.99	38.62	218.0	.2552	3.64	44.67	22.02	11.73	18.82	40.00	160.4	.1727	5.26
22	29.85	45.00	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	42.79	34.90	2.29	22.10	32.78	5.95	.3257	2.42
			5.0	40.60	36.84	3.00	22.78	31.02	10.99	.3343	2.15	43.78	31.32	2.60	21.31	35.41	7.71	.2901	2.90
			6.0	42.13	33.86	3.34	21.82	33.62	13.73	.3180	2.44	44.10	29.49	2.95	21.06	36.53	10.01	.2622	3.28
			7.0	42.63	32.45	3.76	21.51	34.65	17.40	.3040	2.62	44.25	28.39	3.33	20.94	37.16	12.75	.2419	3.54
			8.0	42.89	31.59	4.19	21.35	35.23	21.71	.2936	2.74	44.34	27.66	3.71	20.87	37.56	15.93	.2271	3.75
			10.0	43.14	30.60	5.09	21.20	35.87	32.15	.2798	2.91	44.42	26.72	4.51	20.81	38.02	23.54	.2077	4.06
			12.0	43.27	30.06	6.01	21.13	36.19	44.96	.2717	3.01	44.47	26.32	5.32	20.78	38.27	32.85	.1961	4.26
			14.0	43.34	29.74	6.95	21.09	36.38	60.10	.2665	3.07	44.49	26.02	6.14	20.76	38.42	43.85	.1888	4.39
			16.0	43.38	29.54	7.89	21.06	36.51	77.58	.2630	3.12	44.51	25.83	6.97	20.75	38.51	56.54	.1838	4.48
			18.0	43.41	29.40	8.83	21.05	36.59	97.39	.2605	3.15	44.52	25.70	7.81	20.74	38.58	70.92	.1803	4.55
			20.0	43.43	29.29	9.79	21.04	36.65	119.6	.2588	3.17	44.53	25.61	8.64	20.73	38.63	86.99	.1778	4.60
			30.0	43.48	29.05	14.57	21.01	36.79	266.2	.2545	3.22	44.54	25.38	12.86	20.72	38.74	192.7	.1717	4.73
24	32.68	45.05	4.0	-	-	-	-	-	-	-	-	40.77	38.99	2.52	25.42	27.94	7.22	.2982	2.18
			5.0	-	-	-	-	-	-	-	-	43.32	33.90	2.79	23.47	33.18	8.91	.2738	2.70
			6.0	-	-	-	-	-	-	-	-	43.82	31.93	3.17	23.09	34.68	11.58	.2494	3.03
			7.0	41.30	36.58	4.17	24.24	30.80	21.47	.2941	2.29	44.04	30.78	3.58	22.93	35.46	14.81	.2316	3.28
			8.0	41.77	35.25	4.62	23.82	32.01	26.42	.2861	2.42	44.16	30.05	4.01	22.84	35.95	18.55	.2186	3.47
			10.0	42.26	34.30	5.59	23.50	33.10	38.86	.2749	2.58	44.29	29.18	4.88	22.75	36.49	27.56	.2017	3.73
			12.0	42.49	33.37	6.60	23.36	33.60	54.26	.2681	2.67	44.35	28.70	5.76	22.71	36.79	38.56	.1918	3.89
			14.0	42.61	32.81	7.63	23.28	33.88	72.52	.2638	2.72	44.39	28.41	6.66	22.68	36.96	51.61	.1854	4.00
			16.0	42.69	32.78	8.66	23.24	34.06	93.61	.2609	2.76	44.41	28.23	7.57	22.67	37.07	66.64	.1812	4.08
			18.0	42.74	32.62	9.70	23.21	34.17	117.5	.2589	2.79	44.42	28.10	8.48	22.66	37.15	83.67	.1783	4.13
			20.0	42.78	32.51	10.75	23.19	34.26	144.3	.2574	2.80	44.43	28.00	9.39	22.65	37.20	102.7	.1761	4.17
			30.0	42.86	32.24	16.01	23.15	34.45	320.2	.2539	2.85	44.46	27.78	13.98	22.64	37.33	228.0	.1709	4.27
26	35.63	45.19	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	42.47	36.98	3.01	25.95	30.01	10.38	.2588	2.48
			6.0	-	-	-	-	-	-	-	-	43.42	34.59	3.41	25.25	32.36	13.37	.2385	2.80
			7.0	-	-	-	-	-	-	-	-	43.78	33.34	3.85	24.99	33.42	17.10	.2230	3.03
			8.0	-	-	-	-	-	-	-	-	43.96	32.56	4.31	24.86	34.04	21.46	.2116	3.19
			10.0	-	-	-	-	-	-	-	-	44.15	31.66	5.25	24.73	34.72	31.97	.1969	3.42
			12.0	40.13	38.36	7.45	26.64	28.39	69.12	.2644	2.25	44.24	31.17	6.21	24.67	35.07	44.84	.1883	3.56
			14.0	40.81	37.45	8.51	26.13	29.49	90.39	.2613	2.33	44.29	30.88	7.19	24.64	35.28	60.07	.1828	3.65
			16.0	41.31	37.01	9.63	25.96	29.98	113.8	.2590	2.38	44.32	30.69	8.17	24.62	35.41	77.64	.1792	3.71
			18.0	41.26	36.74	10.77	25.87	30.26	144.9	.2574	2.41	44.34	30.56	9.15	24.61	35.51	97.56	.1766	3.75
			20.0	41.37	36.56	11.91	25.80	30.45	177.3	.2562	2.43	44.35	30.47	10.14	24.60	35.57	119.8	.1748	3.79
			30.0	41.59	36.16	17.70	25.67	30.86	391.0	.2533	2.47	44.39	30.25	15.11	24.58	35.72	266.3	.1703	3.87
28	38.42	45.38	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	42.58	37.80	3.68	27.76	28.93	15.61	.2283	2.55
			7.0	-	-	-	-	-	-	-	-	43.32	36.18	4.13	27.23	30.73	19.76	.2155	2.77
			8.0	-	-	-	-	-	-	-	-	43.64	35.28	4.62	27.00	31.63	24.74	.2057	2.93
			10.0	-	-	-	-	-	-	-	-	43.94	34.29	5.63	26.80	32.56	36.97	.1929	3.12
			12.0	-	-	-	-	-	-	-	-	44.08	33.77	6.67	26.71	33.02	51.75	.1854	3.24
			14.0	-	-	-	-	-	-	-	-	44.15	33.47	7.72	26.66	33.28	69.37	.1806	3.32
			16.0	-	-	-	-	-	-	-	-	44.20	33.27	8.78	26.63	33.45	89.71	.1775	3.38
			18.0	-	-	-	-	-	-	-	-	44.23	33.13	9.84	26.61	33.56	112.8	.1753	3.41
			20.0	-	-	-	-	-	-	-	-	44.25	33.04	10.90	26.59	33.64	138.5	.1737	3.44
			30.0	-	-	-	-	-	-	-	-	44.30	32.81	16.26	26.56	33.83	308.1	.1698	3.51
30	41.10	45.65	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(1) $\epsilon_p = 45°$; $\Gamma = 20°$; $\epsilon_r = 21.34°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.65	16.55	36.16	1.63	16.42	36.47	1.61	16.31	36.75	1.59	16.22	37.00	1.57	16.13	37.24	1.55	16.05	37.46
1.83	15.54	39.16	1.81	15.50	39.31	1.78	15.46	39.47	1.76	15.43	39.61	1.74	15.39	39.75	1.71	15.37	39.89
2.05	15.29	40.29	2.02	15.26	40.42	2.00	15.24	40.55	1.97	15.22	40.68	1.94	15.20	40.80	1.91	15.18	40.92
2.30	15.18	40.90	2.26	15.17	41.02	2.23	15.15	41.15	2.19	15.13	41.26	2.16	15.12	41.38	2.12	15.11	41.49
2.55	15.13	41.27	2.51	15.12	41.39	2.47	15.10	41.51	2.43	15.09	41.63	2.38	15.08	41.74	2.34	15.07	41.85
2.82	15.10	41.52	2.77	15.09	41.64	2.72	15.08	41.76	2.67	15.07	41.87	2.62	15.06	41.99	2.57	15.05	42.10
3.36	15.07	41.82	3.30	15.06	41.94	3.24	15.05	42.06	3.18	15.05	42.17	3.11	15.04	42.29	3.05	15.03	42.40
3.93	15.06	41.99	3.85	15.05	42.11	3.77	15.04	42.23	3.70	15.04	42.34	3.62	15.03	42.46	3.55	15.02	42.57
4.50	15.05	42.10	4.41	15.04	42.22	4.32	15.04	42.33	4.23	15.03	42.45	4.15	15.03	42.56	4.06	15.02	42.67
5.09	15.05	42.17	4.98	15.04	42.29	4.88	15.03	42.40	4.78	15.03	42.52	4.67	15.02	42.63	4.57	15.02	42.74
5.68	15.04	42.22	5.56	15.04	42.34	5.44	15.03	42.45	5.32	15.02	42.57	5.21	15.02	42.68	5.09	15.02	42.79
6.27	15.04	42.25	6.14	15.03	42.37	6.01	15.03	42.49	5.88	15.02	42.60	5.75	15.02	42.72	5.62	15.02	42.83
9.27	15.04	42.33	9.07	15.03	42.45	8.87	15.02	42.57	8.67	15.02	42.69	8.48	15.02	42.80	8.28	15.01	42.91
1.78	19.22	33.13	1.74	18.91	37.82	1.71	18.67	34.37	1.68	18.48	34.83	1.65	18.33	35.23	1.63	18.19	35.58
1.96	17.56	37.57	1.93	17.49	37.81	1.90	17.44	38.04	1.87	17.38	38.25	1.84	17.34	38.45	1.82	17.29	38.65
2.21	17.23	38.97	2.18	17.19	39.16	2.14	17.16	39.35	2.11	17.13	39.53	2.08	17.10	39.70	2.04	17.07	39.86
2.49	17.10	39.69	2.45	17.07	39.87	2.41	17.05	40.04	2.37	17.03	40.21	2.33	17.01	40.37	2.29	16.99	40.53
2.78	17.04	40.13	2.73	17.01	40.30	2.69	17.00	40.47	2.64	16.98	40.63	2.59	16.96	40.78	2.54	16.95	40.94
3.09	17.00	40.42	3.03	16.98	40.58	2.97	16.97	40.75	2.92	16.95	40.90	2.86	16.94	41.06	2.81	16.93	41.21
3.71	16.94	40.76	3.64	16.95	40.92	3.57	16.94	41.08	3.49	16.92	41.24	3.42	16.91	41.39	3.35	16.91	41.54
4.35	16.95	40.95	4.26	16.93	41.11	4.18	16.92	41.27	4.09	16.91	41.43	4.00	16.90	41.58	3.92	16.90	41.73
5.00	16.94	41.06	4.90	16.92	41.23	4.80	16.91	41.39	4.70	16.91	41.54	4.60	16.90	41.69	4.50	16.89	41.84
5.66	16.93	41.14	5.54	16.92	41.30	5.43	16.91	41.46	5.31	16.90	41.62	5.19	16.89	41.77	5.08	16.89	41.92
6.33	16.93	41.19	6.19	16.92	41.35	6.06	16.91	41.51	5.93	16.90	41.67	5.80	16.89	41.82	5.67	16.89	41.97
7.00	16.92	41.23	6.85	16.91	41.39	6.70	16.90	41.55	6.55	16.90	41.71	6.41	16.89	41.86	6.26	16.89	42.01
10.97	16.92	41.32	10.15	16.91	41.48	9.92	16.90	41.64	9.70	16.89	41.80	9.48	16.89	41.95	9.26	16.88	42.10
-	-	-	-	-	-	1.84	21.58	30.83	1.79	21.05	31.96	1.75	20.71	32.75	1.72	20.45	33.38
2.09	19.64	35.75	2.06	19.54	36.12	2.02	19.44	36.46	1.99	19.36	36.77	1.95	19.30	37.06	1.92	19.23	37.33
2.38	19.20	37.51	2.34	19.14	37.79	2.29	19.09	38.05	2.25	19.04	38.30	2.22	19.00	38.54	2.18	18.97	38.77
2.69	19.03	38.38	2.64	18.99	38.63	2.59	18.95	38.87	2.55	18.92	39.09	2.50	18.89	39.31	2.45	18.87	39.52
3.02	18.95	38.89	2.96	18.92	39.12	2.91	18.89	39.35	2.85	18.86	39.57	2.80	18.84	39.78	2.74	18.82	39.98
3.36	18.91	39.22	3.29	18.88	39.45	3.23	18.85	39.67	3.17	18.83	39.88	3.10	18.81	40.09	3.04	18.80	40.29
4.06	18.86	39.60	3.98	18.84	39.83	3.90	18.82	40.04	3.81	18.80	40.25	3.74	18.79	40.45	3.66	18.78	40.65
4.78	18.84	39.82	4.68	18.82	40.04	4.58	18.80	40.25	4.48	18.79	40.46	4.38	18.78	40.66	4.29	18.77	40.85
5.51	18.83	39.94	5.39	18.81	40.16	5.27	18.79	40.38	5.16	18.78	40.58	5.04	18.77	40.78	4.93	18.76	40.98
6.24	18.82	40.03	6.11	18.80	40.25	5.97	18.79	40.46	5.84	18.78	40.67	5.71	18.77	40.87	5.58	18.76	41.06
6.98	18.81	40.09	6.83	18.80	40.31	6.68	18.78	40.52	6.53	18.77	40.72	6.38	18.76	40.92	6.24	18.76	41.12
7.72	18.81	40.13	7.56	18.80	40.35	7.39	18.78	40.56	7.22	18.77	40.76	7.06	18.76	40.96	6.90	18.76	41.16
11.47	18.80	40.23	11.22	18.79	40.44	10.97	18.78	40.65	10.72	18.77	40.86	10.47	18.76	41.06	10.23	18.75	41.25
-	-	-	-	-	-	-	-	-	-	-	-	1.88	23.74	28.90	1.82	23.00	30.49
2.24	21.85	33.51	2.19	21.66	34.12	2.15	21.51	34.65	2.11	21.38	35.11	2.07	21.28	35.53	2.03	21.19	35.92
2.55	21.20	35.85	2.50	21.11	36.26	2.45	21.04	36.63	2.40	20.97	36.97	2.36	20.92	37.30	2.31	20.87	37.60
2.89	20.98	36.91	2.84	20.92	37.26	2.78	20.87	37.59	2.73	20.82	37.90	2.67	20.79	38.19	2.62	20.75	38.47
3.26	20.88	37.51	3.19	20.83	37.84	3.13	20.79	38.15	3.07	20.76	38.44	3.00	20.72	38.72	2.94	20.70	38.99
3.64	20.82	37.89	3.56	20.78	38.21	3.49	20.75	38.51	3.42	20.72	38.79	3.35	20.69	39.06	3.28	20.67	39.32
4.41	20.77	38.34	4.32	20.73	38.64	4.23	20.70	38.93	4.13	20.68	39.20	4.05	20.66	39.47	3.96	20.64	39.72
5.20	20.74	38.58	5.09	20.71	38.88	4.98	20.68	39.16	4.87	20.66	39.43	4.76	20.65	39.69	4.66	20.63	39.95
6.01	20.72	38.72	5.87	20.70	39.02	5.75	20.67	39.30	5.62	20.65	39.57	5.49	20.64	39.83	5.37	20.63	40.08
6.82	20.71	38.82	6.67	20.69	39.11	6.52	20.67	39.39	6.37	20.65	39.66	6.23	20.63	39.92	6.08	20.62	40.17
7.63	20.71	38.88	7.46	20.68	39.17	7.29	20.66	39.45	7.13	20.65	39.72	6.97	20.63	39.98	6.81	20.62	40.23
8.45	20.70	38.93	8.26	20.68	39.22	8.07	20.66	39.50	7.89	20.64	39.76	7.71	20.63	40.02	7.55	20.62	40.27
12.57	20.69	39.04	12.28	20.67	39.33	12.00	20.65	39.60	11.73	20.64	39.87	11.45	20.63	40.13	11.18	20.62	40.38
2.41	24.41	30.35	2.34	23.97	31.56	2.28	23.68	32.46	2.23	23.47	33.19	2.18	23.30	33.82	2.14	23.17	34.37
2.72	23.28	33.89	2.66	23.14	34.49	2.61	23.02	35.03	2.55	22.92	35.51	2.50	22.84	35.96	2.45	22.77	36.37
3.10	22.98	35.23	3.04	22.88	35.72	2.97	22.80	36.18	2.91	22.73	36.60	2.85	22.68	36.99	2.79	22.63	37.36
3.50	22.84	35.96	3.43	22.76	36.41	3.35	22.70	36.83	3.28	22.65	37.22	3.21	22.61	37.59	3.15	22.57	37.94
3.92	22.76	36.41	3.83	22.70	36.84	3.75	22.65	37.24	3.67	22.61	37.62	3.59	22.57	37.97	3.51	22.54	38.31
4.77	22.69	36.93	4.66	22.64	37.34	4.56	22.59	37.72	4.45	22.56	38.08	4.36	22.53	38.43	4.26	22.51	38.75
5.63	22.65	37.21	5.50	22.61	37.61	5.38	22.57	37.98	5.26	22.54	38.33	5.14	22.52	38.67	5.02	22.50	38.99
6.51	22.63	37.37	6.36	22.59	37.77	6.22	22.56	38.13	6.07	22.53	38.49	5.94	22.51	38.82	5.80	22.49	39.14
7.39	22.62	37.48	7.22	22.58	37.87	7.06	22.55	38.24	6.90	22.52	38.58	6.74	22.50	38.92	6.58	22.49	39.24
8.28	22.61	37.55	8.09	22.57	37.94	7.90	22.54	38.30	7.72	22.52	38.65	7.54	22.50	38.98	7.37	22.49	39.30
9.17	22.61	37.61	8.96	22.57	37.99	8.75	22.54	38.35	8.55	22.51	38.70	8.35	22.50	39.03	8.16	22.48	39.35
13.66	22.59	37.73	13.34	22.56	38.11	13.03	22.53	38.47	12.72	22.51	38.81	12.43	22.49	39.14	12.13	22.48	39.46
-	-	-	2.54	27.14	26.92	2.43	26.14	29.48	2.36	25.69	30.82	2.31	25.40	31.81	2.25	25.18	32.62
2.91	25.52	31.37	2.84	25.25	32.36	2.77	25.05	33.17	2.71	24.90	33.87	2.65	24.78	34.48	2.59	24.68	35.03
3.32	25.04	33.22	3.24	24.88	33.95	3.16	24.76	34.59	3.09	24.66	35.17	3.03	24.58	35.69	2.96	24.52	36.17
3.75	24.84	34.15	3.66	24.72	34.79	3.58	24.63	35.37	3.50	24.55	35.89	3.42	24.50	36.37	3.35	24.45	36.83
4.20	24.74	34.71	4.10	24.64	35.31	4.01	24.56	35.83	3.92	24.50	36.35	3.83	24.45	36.81	3.75	24.41	37.24
5.12	24.63	35.33	5.00	24.55	35.89	4.88	24.49	36.40	4.77	24.44	36.87	4.66	24.41	37.31	4.56	24.38	37.73
6.06	24.59	35.86	5.92	24.52	36.20	5.78	24.46	36.69	5.65	24.42	37.15	5.51	24.39	37.58	5.39	24.36	37.99
7.01	24.56	35.86	6.84	24.49	36.38	6.68	24.44	36.87	6.53	24.40	37.32	6.38	24.38	37.75	6.23	24.35	38.15
7.97	24.54	35.98	7.78	24.48	36.50	7.59	24.43	36.98	7.42	24.40	37.43	7.24	24.37	37.85	7.07	24.35	38.26
8.93	24.53	36.06	8.72	24.47	36.58	8.51	24.43	37.06	8.31	24.39	37.50	8.11	24.36	37.93	7.92	24.35	38.33
9.89	24.52	36.13	9.66	24.47	36.64	9.43	24.42	37.11	9.21	24.39	37.56	8.99	24.36	37.98	8.77	24.34	38.38
14.74	24.51	36.27	14.39	24.45	36.77	14.05	24.41	37.24	13.71	24.38	37.68	13.38	24.36	38.10	13.06	24.34	38.50
-	-	-	-	-	-	-	-	-	2.52	28.33	27.25	2.44	27.65	29.26	2.37	27.27	30.56
3.16	28.40	27.08	3.03	27.58	29.50	2.94	27.19	30.89	2.86	26.93	31.95	2.80	26.74	32.82	2.73	26.61	33.57
3.55	27.26	30.63	3.45	26.96	31.81	3.36	26.76	32.76	3.28	26.61	33.56	3.20	26.50	34.26	3.13	26.41	34.89
4.01	26.93	31.94	3.91	26.73	32.90	3.81	26.58	33.71	3.72	26.47	34.42	3.63	26.39	35.05	3.55	26.32	35.64
4.49	26.77	32.67	4.38	26.61	33.53	4.27	26.49	34.28	4.17	26.40	34.95	4.07	26.33	35.55	3.98	26.28	36.10
5.48	26.62	33.46	5.34	26.50	34.24	5.21	26.40	34.92	5.09	26.33	35.55	4.97	26.28	36.12	4.85	26.24	36.64
6.50	26.56	33.86	6.33	26.45	34.60	6.18	26.36	35.26	6.03	26.30	35.86	5.88	26.25	36.42	5.75	26.22	36.93
7.52	26.52	34.10	7.33	26.42	34.82	7.15	26.34	35.46	6.98	26.28	36.05	6.81	26.24	36.60	6.65	26.21	37.11
8.55	26.50	34.25	8.33	26.40	34.96	8.13	26.33	35.59	7.93	26.27	36.17	7.74	26.23	36.71	7.56	26.21	37.22
9.58	26.48	34.35	9.34	26.39	35.05	9.11	26.32	35.68	8.89	26.27	36.26	8.68	26.23	36.79	8.47	26.20	37.30
10.62	26.47	34.42	10.35	26.38	35.12	10.10	26.31	35.74	9.85	26.26	36.32	9.61	26.23	36.85	9.38	26.20	37.35
15.83	26.45	34.59	15.43	26.36	35.27	15.05	26.30	35.89	14.69	26.25	36.46	14.33	26.22	36.99	13.98	26.20	37.48
-	-	-	-	-	-	-	-	-	-	-	-	2.60	30.55	24.94	2.50	29.53	27.93
-	-	-	-	-	-	3.13	29.81	27.66	3.03	29.07	29.56	2.95	28.76	30.88	2.87	28.55	31.93
3.85	30.16	25.99	3.68	29.24	28.93	3.57	28.85	30.51	3.47	28.60	31.69	3.38	28.43	32.66	3.30	28.30	33.50

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(1) $\epsilon_p = 45°$; $\Gamma = 20°$; $\epsilon_r = 21.34°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
30	41.08	45.65	7.0	-	-	-	-	-	-	-	-	41.45	40.53	4.55	30.49	25.09	23.97	.2069	2.43
			8.0	-	-	-	-	-	-	-	-	42.83	38.59	4.99	29.51	27.98	28.88	.2001	2.63
			10.0	-	-	-	-	-	-	-	-	43.50	37.26	6.05	29.00	29.62	42.59	.1894	2.83
			12.0	-	-	-	-	-	-	-	-	43.75	36.63	7.16	28.89	30.33	59.65	.1829	2.94
			14.0	-	-	-	-	-	-	-	-	43.88	36.28	8.28	28.80	30.71	79.89	.1788	3.01
			16.0	-	-	-	-	-	-	-	-	43.96	36.05	9.42	28.75	30.95	103.3	.1761	3.06
			18.0	-	-	-	-	-	-	-	-	44.01	35.90	10.55	28.71	31.11	129.8	.1741	3.09
			20.0	-	-	-	-	-	-	-	-	44.04	35.79	11.70	28.69	31.22	159.5	.1728	3.11
			30.0	-	-	-	-	-	-	-	-	44.12	35.54	17.44	28.64	31.47	354.6	.1694	3.17
32	43.83	45.98	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	42.41	40.58	7.81	31.80	25.28	70.92	.1803	2.58
			14.0	-	-	-	-	-	-	-	-	42.95	39.82	8.77	31.42	26.48	93.61	.1770	2.67
			16.0	-	-	-	-	-	-	-	-	43.19	39.44	10.17	31.26	27.04	120.4	.1747	2.72
			18.0	-	-	-	-	-	-	-	-	43.33	39.21	11.38	31.17	27.37	150.9	.1731	2.76
			20.0	-	-	-	-	-	-	-	-	43.41	39.05	12.60	31.11	27.59	185.1	.1719	2.78
			30.0	-	-	-	-	-	-	-	-	43.60	38.70	18.76	30.99	28.07	410.3	.1690	2.84
34	46.54	46.38	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	49.22	46.84	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	51.86	47.36	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	54.65	47.94	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	56.99	48.57	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(I) $\epsilon_p = 45°$; $\Gamma = 20°$; $\epsilon_r = 21.34°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
4.30	29.26	28.88	4.16	28.84	30.54	4.04	28.59	31.75	3.94	28.41	32.74	3.84	28.29	33.60	3.75	28.20	34.35
4.80	28.96	30.03	4.66	28.66	31.39	4.53	28.46	32.47	4.42	28.32	33.37	4.31	28.22	34.17	4.21	28.15	34.88
5.86	28.71	31.14	5.69	28.49	32.29	5.54	28.34	33.25	5.40	28.23	34.08	5.27	28.15	34.81	5.15	28.10	35.48
6.94	28.60	31.68	6.75	28.41	32.75	6.57	28.28	33.65	6.41	28.19	34.44	6.25	28.13	35.15	6.10	28.08	35.81
8.04	28.54	31.98	7.82	28.37	33.01	7.61	28.25	33.89	7.42	28.17	34.66	7.24	28.11	35.36	7.06	28.07	36.00
9.14	28.51	32.18	8.89	28.35	33.18	8.66	28.24	34.04	8.44	28.16	34.80	8.23	28.10	35.49	8.03	28.06	36.12
10.24	28.49	32.31	9.97	28.33	33.29	9.71	28.22	34.14	9.46	28.15	34.89	9.23	28.09	35.58	9.01	28.06	36.21
11.35	28.47	32.40	11.05	28.32	33.37	10.76	28.22	34.21	10.49	28.14	34.96	10.23	28.09	35.64	9.98	28.06	36.27
16.93	28.44	32.61	16.48	28.30	32.56	16.05	28.20	34.38	15.65	28.13	35.12	15.26	28.08	35.79	14.89	28.05	36.41
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.67	32.64	22.91
-	-	-	-	-	-	-	-	-	3.22	31.56	26.03	3.11	30.89	28.48	3.02	30.54	30.04
-	-	-	-	-	-	3.79	31.16	27.40	3.66	30.47	29.41	3.56	30.39	30.82	3.47	30.21	31.95
-	-	-	4.44	31.25	27.09	4.28	30.69	29.30	4.16	30.40	30.79	4.05	30.21	31.96	3.95	30.08	32.95
5.20	31.80	25.27	4.96	30.87	28.55	4.80	30.49	30.28	4.67	30.27	31.57	4.55	30.12	32.63	4.44	30.02	33.55
6.28	31.05	27.83	6.06	30.58	29.86	5.88	30.32	31.28	5.72	30.15	32.41	5.57	30.04	33.38	5.43	29.96	34.23
7.42	30.83	28.73	7.18	30.46	30.47	6.97	30.24	31.78	6.79	30.09	32.85	6.61	30.00	33.77	6.45	29.94	34.59
8.58	30.72	29.20	8.31	30.39	30.82	8.08	30.20	32.06	7.86	30.07	33.10	7.66	29.98	34.00	7.47	29.92	34.81
9.76	30.66	29.48	9.45	30.36	31.04	9.19	30.17	32.29	8.95	30.05	33.26	8.72	29.97	34.15	8.50	29.91	34.94
10.94	30.62	29.67	10.60	30.33	31.18	10.30	30.15	32.37	10.03	30.04	33.37	9.78	29.96	34.25	9.54	29.91	35.04
12.12	30.59	29.80	11.75	30.31	31.29	11.42	30.14	32.46	11.12	30.03	33.45	10.84	29.95	34.32	10.57	29.91	35.10
18.08	30.53	30.10	17.53	30.28	31.52	17.05	30.12	32.66	16.60	30.01	33.63	16.18	29.94	34.49	15.77	29.90	35.26
-	-	-	-	-	-	-	-	-	-	-	-	3.29	33.33	24.93	3.16	32.61	27.74
-	-	-	-	-	-	-	-	-	3.88	32.97	26.23	3.75	32.43	28.59	3.64	32.14	30.19
-	-	-	-	-	-	4.56	33.14	25.61	4.39	32.48	28.34	4.26	32.16	30.06	4.14	31.98	31.38
-	-	-	-	-	-	5.09	32.70	27.34	4.93	32.28	29.40	4.79	32.04	30.89	4.66	31.90	32.09
-	-	-	6.46	32.97	26.25	6.22	32.39	28.81	6.03	32.10	30.48	5.87	31.93	31.78	5.72	31.82	32.88
-	-	-	7.64	32.70	27.35	7.38	32.26	29.49	7.16	32.02	31.01	6.97	31.88	32.23	6.79	31.79	33.28
9.36	33.86	23.25	8.84	32.57	27.90	8.55	32.20	29.87	8.30	31.98	31.32	8.08	31.85	32.50	7.87	31.77	33.52
10.54	33.41	24.68	10.05	32.50	28.23	9.72	32.16	30.10	9.45	31.96	31.51	9.20	31.84	32.67	8.96	31.76	33.68
11.78	33.24	25.24	11.27	32.46	28.45	10.91	32.13	30.26	10.60	31.95	31.64	10.32	31.83	32.79	10.05	31.76	33.78
13.04	33.15	25.58	12.49	32.43	28.60	12.09	32.12	30.37	11.75	31.93	31.74	11.44	31.82	32.87	11.15	31.75	33.85
19.39	32.96	26.26	18.62	32.36	28.94	18.04	32.08	30.63	17.54	31.91	31.95	17.08	31.81	33.06	16.64	31.74	34.03
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.33	34.90	24.53
-	-	-	-	-	-	-	-	-	-	-	-	3.94	34.64	25.60	3.81	34.12	28.12
-	-	-	-	-	-	-	-	-	4.65	34.85	24.74	4.47	34.19	27.74	4.34	33.89	29.61
-	-	-	-	-	-	-	-	-	5.20	34.42	26.55	5.03	34.00	28.83	4.89	33.78	30.46
-	-	-	-	-	-	6.61	34.74	25.16	6.36	34.12	28.09	6.17	33.84	29.94	6.00	33.69	31.38
-	-	-	-	-	-	7.81	34.46	26.36	7.54	34.01	28.80	7.32	33.78	30.49	7.13	33.65	31.84
-	-	-	-	-	-	9.04	34.34	26.96	8.74	33.95	29.20	8.49	33.74	30.81	8.27	33.63	32.12
-	-	-	10.86	35.50	22.44	10.28	34.27	27.32	9.95	33.91	29.44	9.67	33.72	31.01	9.41	33.61	32.29
-	-	-	12.10	35.19	23.49	11.53	34.22	27.55	11.16	33.89	29.61	10.85	33.71	31.15	10.56	33.61	32.41
-	-	-	13.38	35.05	23.98	12.78	34.19	27.71	12.38	33.87	29.73	12.03	33.70	31.24	11.72	33.60	32.50
-	-	-	19.88	34.82	24.85	19.07	34.13	28.08	18.48	33.84	29.99	17.97	33.68	31.47	17.50	33.59	32.69
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.99	36.19	25.50
-	-	-	-	-	-	-	-	-	-	-	-	4.70	36.39	24.56	4.54	35.84	27.53
-	-	-	-	-	-	-	-	-	-	-	-	5.27	36.05	26.24	5.11	35.69	28.59
-	-	-	-	-	-	-	-	-	6.70	36.35	24.73	6.46	35.80	27.74	6.28	35.56	29.70
-	-	-	-	-	-	-	-	-	7.94	36.12	25.89	7.68	35.70	28.45	7.46	35.51	30.25
-	-	-	-	-	-	-	-	-	9.20	36.01	26.48	8.90	35.65	28.85	8.66	35.48	30.57
-	-	-	-	-	-	10.99	37.00	22.10	10.47	35.95	26.84	10.14	35.62	29.09	9.86	35.46	30.77
-	-	-	-	-	-	12.28	36.79	22.91	11.74	35.91	27.07	11.38	35.61	29.26	11.06	35.45	30.91
-	-	-	-	-	-	13.59	36.68	23.36	13.02	35.88	27.23	12.62	35.59	29.38	12.27	35.45	31.00
-	-	-	-	-	-	20.22	36.48	24.19	19.43	35.82	27.59	18.84	35.56	29.65	18.33	35.43	31.23
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.20	38.68	21.17
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.74	37.87	24.89
-	-	-	-	-	-	-	-	-	-	-	-	5.55	38.44	22.17	5.33	37.63	26.36
-	-	-	-	-	-	-	-	-	-	-	-	6.77	37.87	24.89	6.55	37.45	27.76
-	-	-	-	-	-	-	-	-	-	-	-	8.04	37.70	25.91	7.79	37.38	28.44
-	-	-	-	-	-	-	-	-	9.78	38.50	21.91	9.32	37.62	26.45	9.04	37.34	28.82
-	-	-	-	-	-	-	-	-	11.04	38.29	22.80	10.61	37.57	26.78	10.29	37.32	29.06
-	-	-	-	-	-	-	-	-	12.37	38.19	23.28	11.90	37.54	27.00	11.55	37.31	29.22
-	-	-	-	-	-	-	-	-	13.71	38.12	23.60	13.20	37.52	27.15	12.82	37.30	29.34
-	-	-	-	-	-	-	-	-	20.44	37.99	24.26	19.71	37.48	27.50	19.15	37.28	29.60
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.97	40.25	20.65
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.56	39.69	23.43
-	-	-	-	-	-	-	-	-	-	-	-	7.18	40.74	18.68	6.82	39.38	25.43
-	-	-	-	-	-	-	-	-	-	-	-	8.43	39.93	22.15	8.11	39.27	26.31
-	-	-	-	-	-	-	-	-	-	-	-	9.75	39.74	23.15	9.41	39.22	26.79
-	-	-	-	-	-	-	-	-	-	-	-	11.09	39.64	23.69	10.72	39.19	27.09
-	-	-	-	-	-	-	-	-	-	-	-	12.44	39.59	24.03	12.03	39.17	27.29
-	-	-	-	-	-	-	-	-	-	-	-	13.80	39.55	24.26	13.35	39.16	27.43
-	-	-	-	-	-	-	-	-	-	-	-	20.60	39.47	24.78	19.95	39.13	27.75

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(m) $\epsilon_p = 45°$; $\Gamma = 30°$; $\epsilon_r = 35.26°$

			$\gamma_e = \gamma_\infty = 1.67$							$\gamma_e = \gamma_\infty = 1.40$							
α, deg	δ_N, deg	ϵ_e, deg	M_∞	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	2.15	53.75	3.0	53.73	20.86	1.07	1.79	53.27	1.18	.9071	2.87	3.74	20.72	1.06	1.79	53.28	1.15	.9066	2.91
			4.0	53.74	15.79	1.09	1.76	53.41	1.23	.8835	3.81	3.75	15.65	1.08	1.76	53.41	1.19	.8826	3.87
			5.0	53.74	12.82	1.11	1.75	53.48	1.29	.8597	4.72	3.75	12.68	1.10	1.75	53.48	1.24	.8583	4.82
			6.0	53.75	10.87	1.13	1.74	53.53	1.35	.8363	5.62	3.75	10.73	1.12	1.74	53.53	1.29	.8345	5.75
			7.0	53.75	9.48	1.15	1.74	53.56	1.41	.8140	6.50	3.75	9.35	1.14	1.74	53.56	1.34	.8113	6.68
			8.0	53.75	8.46	1.18	1.74	53.58	1.48	.7922	7.36	3.75	8.32	1.16	1.74	53.59	1.40	.7889	7.59
			10.0	53.75	7.03	1.22	1.74	53.62	1.62	.7513	9.03	3.75	6.89	1.20	1.74	53.62	1.51	.7463	9.39
			12.0	53.75	6.09	1.27	1.73	53.64	1.77	.7137	10.64	3.75	5.94	1.24	1.73	53.64	1.63	.7068	11.14
			14.0	53.75	5.42	1.32	1.73	53.65	1.94	.6791	12.18	3.75	5.27	1.29	1.73	53.66	1.76	.6701	12.83
			16.0	53.75	4.93	1.37	1.73	53.66	2.11	.6474	13.65	3.75	4.78	1.33	1.73	53.67	1.90	.6362	14.51
			18.0	53.75	4.55	1.43	1.73	53.67	2.30	.6183	15.07	3.75	4.39	1.38	1.73	53.68	2.05	.6048	16.13
			20.0	53.75	4.25	1.48	1.73	53.68	2.50	.5917	16.42	3.75	4.09	1.43	1.73	53.68	2.21	.5759	17.70
			30.0	53.75	3.39	1.77	1.73	53.70	3.69	.4888	22.31	3.75	3.22	1.68	1.73	53.70	3.14	.4609	24.92
4	4.35	52.81	3.0	52.73	22.36	1.14	3.59	51.77	1.38	.8259	2.75	2.77	22.04	1.13	3.59	51.79	1.31	.8241	2.82
			4.0	52.76	17.21	1.18	3.53	52.06	1.50	.7859	3.62	2.79	16.90	1.16	3.52	52.08	1.41	.7827	3.74
			5.0	52.77	14.23	1.23	3.50	52.22	1.64	.7471	4.46	2.80	13.93	1.20	3.50	52.23	1.52	.7421	4.64
			6.0	52.78	12.28	1.28	3.49	52.32	1.79	.7106	5.26	2.80	11.98	1.25	3.49	52.33	1.64	.7038	5.52
			7.0	52.78	10.92	1.33	3.48	52.38	1.95	.6768	6.03	2.80	10.61	1.29	3.48	52.40	1.77	.6679	6.37
			8.0	52.78	9.92	1.38	3.48	52.43	2.12	.6456	6.77	2.80	9.60	1.33	3.48	52.45	1.91	.6345	7.20
			10.0	52.78	8.54	1.48	3.47	52.50	2.51	.5906	8.16	2.80	8.21	1.43	3.47	52.51	2.22	.5749	8.80
			12.0	52.79	7.65	1.60	3.47	52.54	2.94	.5444	9.42	2.80	7.31	1.53	3.47	52.55	2.56	.5238	10.31
			14.0	52.79	7.04	1.72	3.47	52.57	3.43	.5055	10.57	2.80	6.69	1.63	3.47	52.58	2.94	.4800	11.73
			16.0	52.79	6.60	1.84	3.47	52.59	3.97	.4728	11.61	2.80	6.23	1.74	3.47	52.60	3.36	.4427	13.07
			18.0	52.79	6.26	1.96	3.47	52.60	4.57	.4452	12.56	2.80	5.89	1.85	3.47	52.62	3.82	.4107	14.31
			20.0	52.79	6.01	2.09	3.47	52.62	5.23	.4219	13.40	2.80	5.63	1.96	3.46	52.63	4.32	.3833	15.48
			30.0	52.79	5.32	2.78	3.46	52.65	9.42	.3478	16.51	2.80	4.91	2.57	3.46	52.67	7.51	.2933	20.14
6	6.60	51.91	3.0	51.71	23.97	1.32	5.41	50.21	1.61	.7552	2.62	1.81	23.45	1.19	5.40	50.26	1.50	.7514	2.73
			4.0	51.80	18.74	1.29	5.30	50.69	1.81	.7046	3.44	1.86	18.25	1.25	5.29	50.73	1.66	.6979	3.62
			5.0	51.82	15.76	1.36	5.25	50.93	2.06	.6571	4.21	1.87	15.27	1.32	5.25	50.97	1.86	.6473	4.47
			6.0	51.83	13.84	1.44	5.23	51.09	2.33	.6144	4.93	1.88	13.34	1.38	5.23	51.12	2.07	.6012	5.29
			7.0	51.84	12.51	1.52	5.22	51.19	2.63	.5766	5.60	1.88	12.01	1.46	5.22	51.23	2.31	.5597	6.07
			8.0	51.85	11.55	1.60	5.21	51.26	2.96	.5431	6.22	1.89	11.03	1.53	5.21	51.30	2.56	.5226	6.82
			10.0	51.85	10.24	1.78	5.21	51.36	3.71	.4878	7.35	1.89	9.70	1.69	5.20	51.40	3.15	.4601	8.22
			12.0	51.85	9.43	1.97	5.20	51.42	4.58	.4448	8.31	1.89	8.86	1.85	5.20	51.46	3.82	.4105	9.49
			14.0	51.85	8.88	2.16	5.20	51.46	5.59	.4114	9.14	1.89	8.29	2.02	5.20	51.50	4.59	.3710	10.63
			16.0	51.85	8.49	2.36	5.20	51.49	6.73	.3852	9.85	1.89	7.89	2.20	5.20	51.53	5.46	.3394	11.65
			18.0	51.85	8.21	2.57	5.20	51.51	8.01	.3644	10.44	1.89	7.59	2.38	5.20	51.55	6.43	.3140	12.56
			20.0	51.86	7.99	2.78	5.20	51.53	9.43	.3478	10.95	1.89	7.37	2.56	5.20	51.57	7.51	.2993	13.37
			30.0	51.86	7.45	3.89	5.20	51.56	18.65	.3005	12.57	1.89	6.78	3.54	5.20	51.61	14.48	.2330	16.22
8	8.91	51.06	3.0	50.69	25.70	1.30	7.25	48.57	1.87	.6934	2.50	50.86	24.94	1.27	7.21	48.68	1.70	.6873	2.64
			4.0	50.84	20.38	1.39	7.07	49.27	2.18	.6368	3.27	50.95	19.67	1.35	7.05	49.35	1.95	.6262	3.49
			5.0	50.89	17.41	1.50	7.01	49.62	2.55	.5855	3.97	50.98	16.71	1.44	7.00	49.70	2.24	.5701	4.30
			6.0	50.91	15.53	1.61	6.98	49.83	2.98	.5411	4.61	51.00	14.81	1.53	6.97	49.90	2.58	.5209	5.05
			7.0	50.93	14.25	1.72	6.96	49.96	3.46	.5034	5.18	51.01	13.51	1.64	6.96	50.04	2.95	.4783	5.76
			8.0	50.93	13.32	1.84	6.95	50.06	4.00	.4714	5.70	51.01	12.57	1.74	6.95	50.14	3.37	.4416	6.43
			10.0	50.94	12.11	2.10	6.94	50.19	5.25	.4213	6.60	51.01	11.32	1.96	6.94	50.27	4.33	.3829	7.64
			12.0	50.95	11.36	2.36	6.94	50.27	6.74	.3850	7.33	51.02	10.55	2.20	6.93	50.35	5.46	.3394	8.68
			14.0	50.95	10.87	2.64	6.93	50.32	8.47	.3584	7.91	51.02	10.04	2.44	6.93	50.40	6.78	.3067	9.58
			16.0	50.95	10.53	2.92	6.93	50.35	10.45	.3385	8.38	51.02	9.68	2.69	6.93	50.44	8.28	.2818	10.34
			18.0	50.95	10.29	3.22	6.93	50.38	12.68	.3234	8.76	51.02	9.42	2.95	6.93	50.47	9.96	.2626	10.99
			20.0	50.95	10.11	3.51	6.93	50.40	15.17	.3117	9.07	51.02	9.23	3.21	6.93	50.48	11.84	.2476	11.54
			30.0	50.96	9.66	5.03	6.93	50.44	31.46	.2805	9.97	51.02	8.75	4.56	6.92	50.53	24.11	.2067	13.29
10	11.28	50.25	3.0	49.62	27.57	1.39	9.11	46.82	2.16	.6393	2.38	49.91	26.53	1.34	9.05	47.02	1.93	.6308	2.55
			4.0	49.90	22.15	1.51	8.86	47.78	2.59	.5804	3.10	50.08	21.19	1.45	8.82	47.94	2.27	.5654	3.37
			5.0	49.98	19.19	1.64	8.77	48.25	3.13	.5283	3.74	50.13	18.23	1.56	8.75	48.39	2.69	.5072	4.12
			6.0	50.02	17.34	1.79	8.73	48.52	3.75	.4851	4.29	50.15	16.37	1.69	8.71	48.66	3.17	.4579	4.82
			7.0	50.04	16.10	1.94	8.71	48.70	4.46	.4497	4.79	50.16	15.11	1.83	8.69	48.84	3.72	.4168	5.46
			8.0	50.05	15.22	2.10	8.69	48.82	5.27	.4207	5.22	50.17	14.22	1.96	8.68	48.96	4.34	.3826	6.05
			10.0	50.07	14.09	2.43	8.68	48.98	7.16	.3773	5.93	50.18	13.04	2.26	8.67	49.12	5.78	.3303	7.07
			12.0	50.07	13.41	2.78	8.67	49.07	9.44	.3477	6.47	50.18	12.33	2.56	8.66	49.21	7.50	.2935	7.92
			14.0	50.08	12.97	3.14	8.67	49.13	12.10	.3268	6.88	50.19	11.87	2.88	8.66	49.28	9.51	.2671	8.61
			16.0	50.08	12.68	3.51	8.67	49.17	15.17	.3117	7.20	50.19	11.56	3.21	8.66	49.32	11.82	.2478	9.17
			18.0	50.08	12.46	3.89	8.66	49.20	18.63	.3006	7.44	50.19	11.33	3.54	8.66	49.35	14.43	.2333	9.63
			20.0	50.08	12.31	4.26	8.66	49.22	22.49	.2921	7.64	50.19	11.17	3.87	8.66	49.37	17.34	.2222	10.01
			30.0	50.09	11.93	6.20	8.66	49.27	47.85	.2704	8.17	50.19	10.76	5.60	8.65	49.42	36.40	.1933	11.12
12	13.70	49.49	3.0	48.50	29.62	1.48	11.03	44.91	2.50	.5917	2.26	48.97	28.22	1.42	10.91	45.26	2.18	.5807	2.46
			4.0	48.95	24.03	1.63	10.66	46.21	3.07	.5332	2.94	49.24	22.78	1.55	10.60	46.47	2.63	.5140	3.24
			5.0	49.08	21.07	1.80	10.54	46.81	3.79	.4827	3.51	49.31	19.84	1.70	10.50	47.04	3.19	.4560	3.95
			6.0	49.14	19.27	1.98	10.48	47.15	4.65	.4421	4.00	49.35	18.02	1.86	10.45	47.38	3.85	.4085	4.59
			7.0	49.18	18.07	2.17	10.45	47.37	5.65	.4098	4.41	49.36	16.81	2.02	10.43	47.59	4.61	.3701	5.16
			8.0	49.20	17.23	2.37	10.44	47.52	6.78	.3843	4.77	49.38	15.95	2.20	10.41	47.74	5.47	.3391	5.67
			10.0	49.22	16.17	2.79	10.42	47.70	9.45	.3475	5.33	49.39	14.85	2.56	10.40	47.93	7.50	.2935	6.54
			12.0	49.23	15.55	3.22	10.41	47.81	12.69	.3233	5.73	49.39	14.20	2.94	10.39	48.04	9.94	.2629	7.21
			14.0	49.24	15.15	3.66	10.40	47.88	16.50	.3069	6.03	49.40	13.78	3.33	10.39	48.11	12.80	.2416	7.74
			16.0	49.24	14.89	4.11	10.40	47.92	20.89	.2953	6.25	49.40	13.50	3.73	10.39	48.16	16.10	.2264	8.16
			18.0	49.24	14.70	4.57	10.40	47.96	25.85	.2868	6.41	49.40	13.30	4.14	10.38	48.19	19.83	.2153	8.49
			20.0	49.24	14.56	5.03	10.40	47.98	31.39	.2805	6.54	49.40	13.15	4.55	10.38	48.22	23.99	.2069	8.75
			30.0	49.25	14.25	7.38	10.39	48.03	67.81	.2647	6.88	49.40	12.79	6.64	10.38	48.27	51.32	.1856	9.49
14	16.17	48.78	3.0	47.25	31.90	1.59	13.03	42.74	2.89	.5490	2.14	48.00	30.04	1.50	12.82	43.36	2.46	.5361	2.37
			4.0	47.99	26.05	1.76	12.48	44.52	3.61	.4937	2.77	48.41	24.47	1.66	12.39	44.93	3.03	.4703	3.12
			5.0	48.20	23.08	1.96	12.32	45.28	4.55	.4660	3.28	48.53	21.53	1.84	12.25	45.64	3.76	.4141	3.78
			6.0	48.29	21.30	2.18	12.24	45.70	5.69	.4087	3.71	48.58	19.75	2.03	12.20	46.05	4.63	.3694	4.36
			7.0	48.35	20.14	2.41	12.21	45.96	7.01	.3799	4.06	48.61	18.57	2.23	12.17	46.30	5.63	.3343	4.87
			8.0	48.36	19.34	2.65	12.18	46.14	8.53	.3577	4.36	48.62	17.76	2.44	12.15	46.48	6.78	.3067	5.31
			10.0	48.40	18.34	3.15	12.16	46.36	12.13	.3266	4.80	48.64	16.72	2.88	12.13	46.70	9.49	.2673	6.03
			12.0	48.41	17.76	3.66	12.15	46.48	16.51	.3068	5.10	48.65	16.12	3.33	12.12	46.82	12.78	.2418	6.57
			14.0	48.42	17.40	4.19	12.14	46.56	21.67	.2937	5.32	48.65	15.73	3.80	12.12	46.90	16.65	.2245	6.98
			16.0	48.43	17.16	4.72	12.14	46.61	27.62	.2846	5.47	48.65	15.48	4.27	12.11	46.95	21.10	.2124	7.30
			18.0	48.43	16.99	5.26	12.13	46.64	34.35	.2780	5.59	48.66	15.30	4.75	12.11	46.99	26.15	.2036	7.54
			20.0	48.44	16.87	5.80	12.13	46.67	41.87	.2732	5.68	48.66	15.17	5.23	12.11	47.02	31.78	.1971	7.72
			30.0	48.44	16.57	8.56	12.13	46.73	91.32	.2612	5.91	48.66	14.85	7.69	12.11	47.08	68.80	.1808	8.23

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(m) $\epsilon_p = 45°$; $\Gamma = 30°$, $\epsilon_r = 35.26°$- Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.06	1.79	53.28	1.06	1.79	53.28	1.06	1.79	53.28	1.06	1.79	53.28	1.05	1.79	53.28	1.05	1.79	53.28
1.08	1.76	53.41	1.08	1.76	53.41	1.07	1.76	53.41	1.07	1.76	53.41	1.07	1.76	53.42	1.07	1.76	53.42
1.10	1.75	53.49	1.09	1.75	53.49	1.09	1.75	53.49	1.09	1.75	53.49	1.09	1.75	53.49	1.08	1.75	53.49
1.11	1.74	53.53	1.11	1.74	53.53	1.11	1.74	53.53	1.11	1.74	53.53	1.10	1.74	53.53	1.10	1.74	53.53
1.13	1.74	53.56	1.13	1.74	53.56	1.13	1.74	53.57	1.12	1.74	53.57	1.12	1.74	53.57	1.12	1.74	53.57
1.15	1.74	53.59	1.15	1.74	53.59	1.15	1.74	53.59	1.14	1.74	53.59	1.14	1.74	53.59	1.14	1.74	53.59
1.19	1.74	53.62	1.19	1.74	53.62	1.19	1.74	53.62	1.18	1.74	53.62	1.18	1.74	53.62	1.17	1.74	53.62
1.24	1.73	53.64	1.23	1.73	53.64	1.23	1.73	53.64	1.22	1.73	53.64	1.21	1.73	53.64	1.21	1.73	53.64
1.28	1.73	53.66	1.27	1.73	53.66	1.27	1.73	53.66	1.26	1.73	53.66	1.25	1.73	53.66	1.25	1.73	53.66
1.32	1.73	53.67	1.32	1.73	53.67	1.31	1.73	53.67	1.30	1.73	53.67	1.29	1.73	53.67	1.29	1.73	53.67
1.37	1.73	53.68	1.36	1.73	53.68	1.35	1.73	53.68	1.34	1.73	53.68	1.33	1.73	53.68	1.33	1.73	53.68
1.42	1.73	53.68	1.41	1.73	53.68	1.40	1.73	53.68	1.39	1.73	53.69	1.38	1.73	53.69	1.37	1.73	53.69
1.67	1.73	53.70	1.65	1.73	53.70	1.63	1.73	53.70	1.62	1.73	53.71	1.60	1.73	53.71	1.58	1.73	53.71
1.12	3.59	51.79	1.12	3.59	51.80	1.12	3.59	51.80	1.11	3.59	51.80	1.11	3.59	51.81	1.11	3.58	51.81
1.16	3.52	52.08	1.16	3.52	52.09	1.15	3.52	52.09	1.15	3.52	52.09	1.14	3.52	52.09	1.14	3.52	52.10
1.20	3.50	52.24	1.19	3.50	52.24	1.19	3.50	52.24	1.18	3.50	52.24	1.18	3.50	52.25	1.18	3.50	52.25
1.24	3.49	52.33	1.23	3.49	52.34	1.23	3.49	52.34	1.22	3.49	52.34	1.22	3.49	52.34	1.21	3.48	52.35
1.28	3.48	52.40	1.28	3.48	52.40	1.27	3.48	52.41	1.26	3.48	52.41	1.26	3.48	52.41	1.25	3.48	52.41
1.33	3.48	52.45	1.32	3.47	52.45	1.31	3.47	52.45	1.30	3.47	52.46	1.30	3.47	52.46	1.29	3.47	52.46
1.42	3.47	52.51	1.41	3.47	52.52	1.40	3.47	52.52	1.39	3.47	52.52	1.38	3.47	52.53	1.37	3.47	52.53
1.51	3.47	52.56	1.50	3.47	52.56	1.49	3.47	52.56	1.48	3.47	52.57	1.46	3.47	52.57	1.45	3.47	52.57
1.62	3.47	52.59	1.60	3.47	52.59	1.58	3.47	52.59	1.57	3.47	52.60	1.55	3.47	52.60	1.54	3.47	52.60
1.72	3.47	52.61	1.70	3.47	52.61	1.68	3.47	52.61	1.67	3.47	52.62	1.65	3.47	52.62	1.63	3.47	52.62
1.83	3.47	52.62	1.81	3.47	52.63	1.79	3.46	52.63	1.76	3.46	52.63	1.74	3.46	52.64	1.72	3.46	52.64
1.94	3.46	52.64	1.91	3.46	52.64	1.89	3.46	52.64	1.87	3.46	52.65	1.84	3.46	52.65	1.82	3.46	52.65
2.53	3.46	52.67	2.49	3.46	52.67	2.45	3.46	52.68	2.41	3.46	52.68	2.37	3.46	52.68	2.33	3.46	52.69
1.19	5.39	50.27	1.18	5.39	50.28	1.18	5.39	50.29	1.18	5.39	50.30	1.17	5.38	50.31	1.17	5.38	50.31
1.25	5.29	50.74	1.24	5.29	50.74	1.23	5.28	50.75	1.23	5.28	50.76	1.22	5.28	50.77	1.22	5.28	50.77
1.31	5.25	50.98	1.30	5.25	50.99	1.29	5.25	50.99	1.29	5.24	51.00	1.28	5.24	51.01	1.27	5.24	51.02
1.38	5.23	51.13	1.37	5.23	51.14	1.36	5.23	51.15	1.35	5.23	51.15	1.34	5.22	51.16	1.33	5.22	51.17
1.45	5.22	51.23	1.43	5.22	51.24	1.42	5.22	51.25	1.41	5.22	51.25	1.40	5.21	51.26	1.39	5.21	51.27
1.52	5.21	51.31	1.50	5.21	51.32	1.49	5.21	51.32	1.48	5.21	51.33	1.47	5.21	51.34	1.45	5.21	51.34
1.67	5.20	51.41	1.65	5.20	51.41	1.63	5.20	51.42	1.62	5.20	51.43	1.60	5.20	51.44	1.59	5.20	51.44
1.83	5.20	51.47	1.81	5.20	51.48	1.79	5.20	51.48	1.76	5.20	51.49	1.74	5.20	51.50	1.72	5.20	51.51
1.99	5.20	51.51	1.97	5.20	51.52	1.94	5.20	51.53	1.92	5.20	51.53	1.89	5.20	51.54	1.87	5.20	51.55
2.17	5.20	51.54	2.14	5.20	51.55	2.11	5.20	51.56	2.08	5.20	51.56	2.05	5.20	51.57	2.02	5.20	51.58
2.34	5.20	51.56	2.31	5.20	51.57	2.27	5.20	51.58	2.24	5.20	51.59	2.21	5.20	51.59	2.17	5.20	51.60
2.53	5.20	51.58	2.49	5.20	51.59	2.45	5.20	51.60	2.41	5.20	51.60	2.37	5.20	51.61	2.33	5.19	51.62
3.48	5.19	51.62	3.42	5.19	51.63	3.35	5.19	51.64	3.29	5.19	51.65	3.23	5.19	51.66	3.17	5.19	51.67
1.26	7.21	48.70	1.25	7.20	48.72	1.25	7.20	48.73	1.24	7.19	48.75	1.23	7.19	48.77	1.23	7.18	48.79
1.34	7.05	49.37	1.33	7.05	49.38	1.32	7.05	49.40	1.31	7.04	49.41	1.31	7.04	49.43	1.30	7.04	49.44
1.43	6.99	49.71	1.42	6.99	49.72	1.41	6.99	49.74	1.39	6.99	49.75	1.38	6.99	49.77	1.37	6.99	49.78
1.52	6.97	49.92	1.51	6.97	49.93	1.49	6.97	49.95	1.48	6.96	49.96	1.47	6.96	49.97	1.46	6.96	49.99
1.62	6.95	50.06	1.60	6.95	50.07	1.59	6.95	50.09	1.57	6.95	50.10	1.56	6.95	50.11	1.54	6.95	50.13
1.72	6.95	50.16	1.70	6.94	50.17	1.69	6.94	50.18	1.67	6.94	50.20	1.65	6.94	50.21	1.63	6.94	50.23
1.94	6.94	50.29	1.91	6.93	50.30	1.89	6.93	50.32	1.87	6.93	50.33	1.84	6.93	50.34	1.82	6.93	50.36
2.17	6.93	50.37	2.14	6.93	50.38	2.11	6.93	50.40	2.08	6.93	50.41	2.05	6.93	50.43	2.02	6.93	50.44
2.40	6.93	50.42	2.37	6.93	50.43	2.33	6.93	50.45	2.29	6.93	50.46	2.26	6.93	50.48	2.22	6.93	50.49
2.65	6.93	50.46	2.60	6.93	50.47	2.56	6.93	50.49	2.52	6.93	50.50	2.48	6.93	50.52	2.44	6.92	50.53
2.90	6.93	50.48	2.85	6.93	50.50	2.80	6.93	50.51	2.75	6.93	50.53	2.70	6.92	50.54	2.66	6.92	50.56
3.15	6.93	50.50	3.10	6.93	50.52	3.04	6.92	50.53	2.99	6.92	50.55	2.93	6.92	50.57	2.88	6.92	50.58
4.48	6.92	50.55	4.39	6.92	50.57	4.30	6.92	50.58	4.22	6.92	50.60	4.13	6.92	50.62	4.04	6.92	50.63
1.33	9.04	47.06	1.32	9.03	47.09	1.31	9.02	47.12	1.31	9.01	47.16	1.30	9.00	47.19	1.29	8.99	47.22
1.43	8.82	47.97	1.42	8.81	47.99	1.41	8.81	48.02	1.40	8.80	48.05	1.39	8.80	48.07	1.38	8.80	48.10
1.55	8.74	48.41	1.54	8.74	48.44	1.52	8.74	48.46	1.51	8.73	48.49	1.49	8.73	48.51	1.48	8.73	48.54
1.67	8.71	48.68	1.66	8.71	48.71	1.64	8.70	48.73	1.62	8.70	48.76	1.61	8.70	48.78	1.59	8.70	48.80
1.80	8.69	48.86	1.78	8.69	48.88	1.76	8.68	48.91	1.74	8.68	48.93	1.72	8.68	48.96	1.70	8.68	48.98
1.94	8.68	48.98	1.92	8.68	49.01	1.89	8.67	49.03	1.87	8.67	49.06	1.84	8.67	49.08	1.82	8.67	49.10
2.22	8.67	49.14	2.19	8.67	49.17	2.16	8.66	49.19	2.13	8.66	49.22	2.10	8.66	49.24	2.07	8.66	49.27
2.52	8.66	49.24	2.48	8.66	49.27	2.44	8.66	49.29	2.41	8.66	49.32	2.37	8.66	49.34	2.33	8.66	49.37
2.83	8.66	49.30	2.79	8.66	49.33	2.74	8.66	49.35	2.69	8.65	49.38	2.64	8.65	49.41	2.60	8.65	49.43
3.15	8.66	49.34	3.09	8.66	49.37	3.04	8.65	49.40	2.98	8.65	49.42	2.93	8.65	49.45	2.88	8.65	49.48
3.47	8.66	49.37	3.41	8.65	49.40	3.35	8.65	49.43	3.28	8.65	49.45	3.22	8.65	49.48	3.16	8.65	49.51
3.80	8.65	49.40	3.73	8.65	49.42	3.66	8.65	49.45	3.59	8.65	49.48	3.52	8.65	49.50	3.45	8.65	49.53
5.49	8.65	49.45	5.38	8.65	49.48	5.27	8.65	49.51	5.16	8.65	49.53	5.05	8.65	49.56	4.94	8.65	49.59
1.41	10.89	45.32	1.40	10.88	45.38	1.39	10.86	45.44	1.37	10.84	45.49	1.36	10.83	45.54	1.35	10.81	45.60
1.53	10.59	46.52	1.52	10.58	46.56	1.51	10.57	46.60	1.49	10.57	46.64	1.48	10.56	46.69	1.47	10.55	46.73
1.68	10.49	47.08	1.66	10.49	47.12	1.64	10.48	47.16	1.63	10.48	47.20	1.61	10.47	47.24	1.59	10.46	47.28
1.83	10.45	47.42	1.81	10.44	47.46	1.79	10.44	47.49	1.77	10.43	47.53	1.75	10.43	47.57	1.73	10.43	47.61
2.00	10.42	47.63	1.97	10.42	47.67	1.95	10.42	47.71	1.92	10.41	47.75	1.89	10.41	47.79	1.87	10.41	47.82
2.17	10.41	47.78	2.14	10.41	47.82	2.11	10.40	47.86	2.08	10.40	47.90	2.05	10.40	47.94	2.02	10.40	47.97
2.52	10.40	47.97	2.48	10.39	48.01	2.44	10.39	48.05	2.40	10.39	48.09	2.36	10.39	48.13	2.33	10.39	48.17
2.89	10.39	48.08	2.84	10.39	48.12	2.79	10.39	48.16	2.75	10.38	48.20	2.70	10.38	48.24	2.65	10.38	48.28
3.28	10.39	48.15	3.22	10.38	48.19	3.16	10.38	48.23	3.10	10.38	48.27	3.04	10.38	48.31	2.98	10.38	48.35
3.67	10.38	48.20	3.60	10.38	48.24	3.53	10.38	48.28	3.46	10.38	48.32	3.39	10.38	48.36	3.33	10.38	48.40
4.06	10.38	48.23	3.98	10.38	48.28	3.91	10.38	48.32	3.83	10.38	48.36	3.75	10.38	48.40	3.68	10.38	48.44
4.46	10.38	48.26	4.38	10.38	48.30	4.29	10.38	48.34	4.20	10.38	48.38	4.12	10.38	48.43	4.03	10.38	48.47
6.51	10.38	48.32	6.37	10.38	48.36	6.24	10.38	48.40	6.11	10.38	48.45	5.98	10.37	48.49	5.84	10.37	48.53
1.49	12.78	43.46	1.47	12.75	43.55	1.46	12.72	43.65	1.45	12.70	43.73	1.43	12.67	43.82	1.42	12.65	43.90
1.64	12.37	45.00	1.62	12.36	45.07	1.60	12.34	45.14	1.59	12.33	45.20	1.57	12.32	45.27	1.55	12.31	45.33
1.81	12.24	45.71	1.79	12.23	45.77	1.77	12.23	45.83	1.75	12.22	45.89	1.73	12.21	45.95	1.71	12.20	46.00
2.00	12.19	46.11	1.97	12.18	46.17	1.95	12.17	46.23	1.92	12.17	46.28	1.89	12.16	46.34	1.87	12.16	46.40
2.20	12.16	46.36	2.17	12.15	46.42	2.13	12.15	46.48	2.10	12.14	46.54	2.07	12.14	46.59	2.04	12.13	46.65
2.40	12.14	46.54	2.36	12.14	46.60	2.33	12.13	46.66	2.29	12.13	46.71	2.25	12.12	46.77	2.22	12.12	46.83
2.83	12.12	46.76	2.78	12.12	46.82	2.73	12.12	46.88	2.68	12.11	46.93	2.64	12.11	46.99	2.59	12.11	47.05
3.27	12.12	46.88	3.21	12.11	46.94	3.15	12.11	47.00	3.09	12.11	47.06	3.04	12.10	47.12	2.98	12.10	47.18
3.73	12.11	46.96	3.66	12.11	47.02	3.59	12.11	47.08	3.52	12.10	47.14	3.45	12.10	47.20	3.38	12.10	47.26
4.19	12.11	47.02	4.11	12.11	47.08	4.03	12.10	47.14	3.95	12.10	47.20	3.87	12.10	47.26	3.79	12.10	47.31
4.66	12.11	47.05	4.56	12.10	47.11	4.47	12.10	47.18	4.38	12.10	47.24	4.29	12.10	47.29	4.20	12.10	47.35
5.13	12.11	47.08	5.03	12.10	47.14	4.92	12.10	47.20	4.82	12.10	47.26	4.72	12.10	47.32	4.62	12.10	47.38
7.53	12.10	47.14	7.37	12.10	47.21	7.22	12.10	47.27	7.06	12.10	47.33	6.90	12.10	47.39	6.75	12.09	47.45

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(m) $\epsilon_p = 45°$; $\Gamma = 30°$; $\epsilon_r = 35.26°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$ θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	$\gamma_e = \gamma_\infty = 1.40$ θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	18.70	48.12	3.0	45.72	34.57	1.70	15.22	40.10	3.37	.5095	2.00	46.97	32.02	1.59	14.79	41.24	2.79	.4960	2.27
			4.0	46.99	28.22	1.89	14.35	42.65	4.23	.4603	2.60	47.61	26.24	1.77	14.19	43.30	3.48	.4331	2.99
			5.0	47.30	25.20	2.13	14.12	43.62	5.42	.4162	3.07	47.78	23.30	1.98	14.01	44.17	4.40	.3797	3.62
			6.0	47.44	23.42	2.39	14.02	44.13	6.87	.3825	3.44	47.85	21.55	2.20	13.94	44.65	5.50	.3382	4.13
			7.0	47.51	22.30	2.66	13.97	44.45	8.58	.3571	3.74	47.89	20.41	2.44	13.90	44.96	6.79	.3065	4.58
			8.0	47.55	21.53	2.94	13.94	44.66	10.53	.3378	3.98	47.91	19.63	2.69	13.88	45.16	8.26	.2821	4.96
			10.0	47.60	20.58	3.52	13.91	44.91	15.21	.3116	4.33	47.93	18.65	3.20	13.86	45.41	11.76	.2482	5.57
			12.0	47.62	20.04	4.11	13.89	45.05	20.90	.2952	4.56	47.94	18.08	3.72	13.85	45.55	16.02	.2267	6.00
			14.0	47.64	19.70	4.72	13.88	45.14	27.61	.2846	4.73	47.95	17.72	4.26	13.84	45.64	21.04	.2125	6.32
			16.0	47.64	19.48	5.34	13.88	45.20	35.36	.2773	4.86	47.96	17.49	4.81	13.84	45.70	26.82	.2027	6.56
			18.0	47.65	19.32	5.96	13.87	45.24	44.13	.2721	4.92	47.96	17.32	5.36	13.84	45.74	33.37	.1957	6.74
			20.0	47.65	19.21	6.58	13.87	45.27	53.92	.2682	4.99	47.96	17.21	5.92	13.83	45.77	40.69	.1905	6.87
			30.0	47.66	18.94	9.74	13.86	45.34	118.4	.2588	5.15	47.97	16.92	8.73	13.83	45.84	88.80	.1776	7.24
18	21.27	47.53	3.0	43.17	38.28	1.86	18.09	36.11	4.09	.4669	1.81	45.81	34.24	1.69	16.89	38.77	3.16	.4591	2.16
			4.0	45.90	30.61	2.04	16.28	40.52	4.94	.4316	2.43	46.82	28.11	1.88	16.01	41.54	3.98	.4013	2.86
			5.0	46.39	27.46	2.31	15.95	41.78	6.40	.3918	2.86	47.06	25.15	2.12	15.78	42.61	5.10	.3512	3.43
			6.0	46.58	25.69	2.60	15.82	42.42	8.21	.3617	3.18	47.16	23.42	2.38	15.69	43.18	6.47	.3132	3.90
			7.0	46.69	24.57	2.91	15.75	42.80	10.35	.3396	3.44	47.21	22.31	2.66	15.64	43.54	8.07	.2847	4.30
			8.0	46.75	23.82	3.23	15.71	43.05	12.81	.3227	3.64	47.24	21.55	2.94	15.62	43.77	9.91	.2632	4.63
			10.0	46.81	22.90	3.89	15.67	43.35	18.69	.3004	3.92	47.27	20.62	3.52	15.59	44.05	14.30	.2339	5.14
			12.0	46.85	22.38	4.57	15.65	43.51	25.87	.2868	4.10	47.29	20.09	4.12	15.58	44.21	19.65	.2157	5.49
			14.0	46.87	22.06	5.26	15.64	43.61	34.35	.2780	4.23	47.30	19.76	4.73	15.57	44.31	25.96	.2039	5.74
			16.0	46.88	21.85	5.96	15.63	43.68	44.13	.2721	4.31	47.30	19.54	5.35	15.56	44.38	33.23	.1956	5.93
			18.0	46.89	21.71	6.66	15.62	43.72	55.20	.2678	4.37	47.31	19.38	5.97	15.56	44.42	41.47	.1900	6.06
			20.0	46.89	21.60	7.36	15.62	43.75	67.58	.2648	4.42	47.31	19.27	6.60	15.56	44.45	50.66	.1859	6.17
			30.0	46.91	21.35	10.92	15.61	43.83	149.0	.2572	4.54	47.32	19.01	9.77	15.55	44.53	111.2	.1754	6.43
20	23.90	46.99	3.0	-	-	-	-	-	-	-	-	44.24	36.96	1.80	19.32	35.55	3.63	.4227	2.03
			4.0	44.58	33.33	2.20	18.38	37.93	5.79	.4060	2.26	46.01	30.10	2.01	17.87	39.59	4.53	.3738	2.72
			5.0	45.39	29.91	2.49	17.85	39.68	7.53	.3714	2.65	46.36	27.08	2.28	17.57	40.92	5.88	.3275	3.25
			6.0	45.69	28.08	2.82	17.66	40.50	9.73	.3448	2.94	46.50	25.35	2.57	17.45	41.61	7.57	.2929	3.68
			7.0	45.85	26.96	3.17	17.56	40.97	12.34	.3253	3.16	46.57	24.26	2.88	17.39	42.02	9.49	.2674	4.04
			8.0	45.93	26.21	3.53	17.51	41.27	15.36	.3109	3.32	46.61	23.53	3.19	17.36	42.29	11.73	.2484	4.32
			10.0	46.03	25.31	4.27	17.45	41.63	22.61	.2919	3.55	46.65	22.63	3.85	17.32	42.62	17.11	.2229	4.75
			12.0	46.08	24.81	5.03	17.42	41.82	31.46	.2805	3.70	46.68	22.12	4.52	17.30	42.80	23.66	.2075	5.03
			14.0	46.11	24.50	5.81	17.40	41.93	41.91	.2732	3.79	46.69	21.81	5.20	17.29	42.90	31.40	.1975	5.24
			16.0	46.12	24.30	6.58	17.39	42.01	53.96	.2682	3.86	46.70	21.61	5.89	17.29	42.98	40.33	.1907	5.38
			18.0	46.14	24.16	7.37	17.39	42.06	67.63	.2647	3.91	46.70	21.46	6.59	17.28	43.03	50.45	.1859	5.49
			20.0	46.14	24.06	8.15	17.38	42.10	82.90	.2622	3.94	46.71	21.36	7.28	17.28	43.06	61.75	.1824	5.58
			30.0	46.16	23.82	12.11	17.37	42.19	183.3	.2560	4.03	46.72	21.11	10.81	17.28	43.15	136.1	.1738	5.77
22	26.56	46.51	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	42.47	36.94	2.40	20.97	34.12	6.98	.3806	2.04	45.14	32.24	2.13	19.81	37.38	5.15	.3496	2.58
			5.0	44.21	32.66	2.70	19.88	37.13	8.85	.3538	2.44	45.67	29.10	2.43	19.38	39.07	6.73	.3076	3.08
			6.0	44.71	30.67	3.06	19.57	38.26	11.47	.3309	2.70	45.86	27.36	2.76	19.22	39.90	8.70	.2763	3.47
			7.0	44.94	29.50	3.45	19.43	38.87	14.61	.3140	2.89	45.96	26.28	3.10	19.15	40.39	11.04	.2534	3.78
			8.0	45.08	28.73	3.85	19.35	39.25	18.25	.3016	3.03	46.02	25.56	3.45	19.10	40.71	13.73	.2366	4.03
			10.0	45.22	27.83	4.67	19.26	39.69	27.01	.2853	3.22	46.08	24.69	4.18	19.06	41.08	20.18	.2144	4.39
			12.0	45.29	27.33	5.51	19.22	39.92	37.71	.2756	3.34	46.11	24.20	4.92	19.04	41.28	28.06	.2011	4.63
			14.0	45.33	27.02	6.36	19.20	40.06	50.37	.2694	3.42	46.12	23.90	5.67	19.02	41.40	37.37	.1926	4.79
			16.0	45.35	26.83	7.22	19.18	40.15	64.96	.2653	3.47	46.13	23.70	6.43	19.02	41.48	48.10	.1868	4.90
			18.0	45.37	26.69	8.08	19.17	40.21	81.51	.2624	3.51	46.14	23.57	7.20	19.01	41.54	60.27	.1828	4.99
			20.0	45.38	26.59	8.95	19.17	40.25	100.0	.2603	3.54	46.15	23.47	7.97	19.01	41.58	73.66	.1798	5.05
			30.0	45.41	26.36	13.32	19.15	40.36	221.7	.2552	3.60	46.16	23.24	11.84	19.00	41.67	163.3	.1726	5.21
24	29.27	46.09	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	44.12	34.65	2.27	21.89	34.70	5.87	.3278	2.43
			5.0	42.41	36.11	2.95	22.29	33.53	10.61	.3372	2.20	44.95	31.24	2.59	21.24	36.99	7.68	.2906	2.91
			6.0	43.46	33.62	3.32	21.65	35.44	13.56	.3188	2.46	45.23	29.45	2.95	21.02	38.02	9.99	.2624	3.26
			7.0	43.87	32.30	3.74	21.41	36.33	17.25	.3045	2.63	45.37	28.36	3.33	20.92	38.61	12.74	.2420	3.54
			8.0	44.09	31.47	4.18	21.28	36.84	21.57	.2939	2.75	45.45	27.65	3.71	20.86	38.98	15.91	.2271	3.75
			10.0	44.32	30.52	5.08	21.15	37.42	32.01	.2800	2.92	45.53	26.79	4.51	20.80	39.41	23.53	.2077	4.06
			12.0	44.43	30.00	6.00	21.08	37.71	44.78	.2717	3.02	45.57	26.31	5.32	20.77	39.64	32.85	.1961	4.26
			14.0	44.49	29.69	6.93	21.05	37.89	59.89	.2665	3.08	45.60	26.02	6.14	20.76	39.78	43.85	.1880	4.39
			16.0	44.53	29.49	7.88	21.03	38.00	77.33	.2630	3.12	45.61	25.83	6.97	20.75	39.87	56.55	.1838	4.48
			18.0	44.55	29.35	8.82	21.01	38.08	97.10	.2606	3.15	45.62	25.70	7.81	20.74	39.94	70.93	.1803	4.55
			20.0	44.57	29.25	9.77	21.00	38.13	119.2	.2588	3.17	45.63	25.61	8.64	20.74	39.98	87.01	.1778	4.60
			30.0	44.62	29.01	14.55	20.98	38.26	264.6	.2545	3.23	45.64	25.38	12.86	20.73	40.09	192.8	.1717	4.73
26	32.01	45.74	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	-	-	-	-	-	-	-	-	42.51	37.74	2.45	24.43	30.82	6.83	.3057	2.25
			5.0	-	-	-	-	-	-	-	-	44.15	33.55	2.76	23.19	34.53	8.75	.2758	2.73
			6.0	40.98	37.90	3.69	24.50	30.65	16.74	.3061	2.15	44.59	31.66	3.15	22.87	35.88	11.40	.2507	3.06
			7.0	42.27	35.73	4.09	23.72	32.77	20.65	.2958	2.35	44.78	30.53	3.56	22.72	36.61	14.59	.2328	3.30
			8.0	42.75	34.67	4.55	23.44	33.67	25.65	.2871	2.47	44.90	29.81	3.98	22.64	37.06	18.28	.2194	3.49
			10.0	43.18	33.53	5.52	23.19	34.55	37.92	.2755	2.62	45.01	28.95	4.84	22.56	37.57	27.16	.2032	3.76
			12.0	43.37	32.95	6.53	23.08	34.98	53.04	.2685	2.71	45.07	28.48	5.72	22.53	37.85	38.02	.1921	3.92
			14.0	43.48	32.60	7.54	23.02	35.23	70.94	.2641	2.76	45.10	28.19	6.61	22.50	38.01	50.86	.1857	4.03
			16.0	43.54	32.38	8.57	22.98	35.38	91.61	.2611	2.80	45.12	28.00	7.51	22.49	38.12	65.67	.1814	4.11
			18.0	43.59	32.23	9.60	22.96	35.49	115.0	.2591	2.83	45.13	27.87	8.42	22.48	38.19	82.46	.1784	4.17
			20.0	43.62	32.13	10.64	22.94	35.56	141.2	.2576	2.86	45.14	27.78	9.32	22.48	38.24	101.2	.1763	4.21
			30.0	43.69	31.87	15.84	22.90	35.73	313.6	.2539	2.89	45.16	27.56	13.88	22.46	38.36	224.6	.1710	4.31
28	34.78	45.46	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	43.85	34.04	3.36	24.81	33.33	12.99	.2406	2.85
			7.0	-	-	-	-	-	-	-	-	44.16	32.83	3.79	24.59	34.30	16.64	.2245	3.08
			8.0	-	-	-	-	-	-	-	-	44.32	32.07	4.25	24.47	34.87	20.98	.2129	3.24
			10.0	40.85	37.81	6.13	25.94	29.68	46.76	.2709	2.27	44.49	31.18	5.18	24.36	35.50	31.11	.1978	3.47
			12.0	41.55	36.74	7.18	25.53	30.84	64.21	.2655	2.37	44.57	30.70	6.13	24.30	35.84	43.63	.1889	3.62
			14.0	41.85	36.22	8.27	25.36	31.36	85.35	.2619	2.43	44.61	30.41	7.09	24.27	36.03	58.44	.1833	3.71
			16.0	42.01	35.91	9.38	25.27	31.67	109.9	.2594	2.47	44.64	30.23	8.05	24.26	36.16	75.52	.1795	3.78
			18.0	42.11	35.70	10.50	25.21	31.86	137.8	.2577	2.49	44.66	30.10	9.03	24.24	36.24	94.89	.1769	3.82
			20.0	42.18	35.56	11.63	25.17	32.00	169.0	.2565	2.51	44.67	30.01	10.00	24.23	36.30	116.5	.1750	3.85
			30.0	42.33	35.23	17.31	25.08	32.30	374.4	.2534	2.56	44.71	29.79	14.90	24.22	36.45	259.0	.1704	3.94
30	37.58	45.24	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(m) $\epsilon_p = 45°$, $\Gamma = 30°$, $\epsilon_r = 35.26°$- Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.57	14.73	41.41	1.55	14.68	41.56	1.54	14.63	41.71	1.52	14.58	41.85	1.50	14.54	41.99	1.49	14.50	42.11
1.75	14.16	43.40	1.73	14.14	43.51	1.71	14.12	43.61	1.68	14.10	43.70	1.66	14.08	43.80	1.65	14.06	43.89
1.95	14.00	44.26	1.93	13.98	44.36	1.90	13.97	44.44	1.87	13.96	44.53	1.85	13.95	44.61	1.82	13.94	44.70
2.17	13.93	44.74	2.14	13.92	44.83	2.11	13.91	44.92	2.08	13.90	45.00	2.05	13.89	45.08	2.02	13.88	45.16
2.40	13.89	45.04	2.36	13.88	45.13	2.33	13.88	45.21	2.29	13.87	45.30	2.25	13.86	45.38	2.22	13.85	45.46
2.64	13.87	45.25	2.60	13.87	45.33	2.55	13.86	45.42	2.51	13.85	45.50	2.47	13.85	45.58	2.43	13.84	45.66
3.14	13.85	45.50	3.08	13.85	45.58	3.03	13.84	45.67	2.97	13.83	45.75	2.92	13.83	45.83	2.86	13.83	45.91
3.65	13.84	45.64	3.59	13.84	45.72	3.52	13.83	45.81	3.45	13.83	45.89	3.38	13.82	45.97	3.31	13.82	46.05
4.18	13.84	45.73	4.10	13.83	45.81	4.02	13.83	45.90	3.94	13.82	45.98	3.86	13.82	46.06	3.78	13.82	46.14
4.71	13.83	45.78	4.62	13.83	45.87	4.53	13.82	45.96	4.43	13.82	46.04	4.34	13.82	46.12	4.25	13.82	46.20
5.25	13.83	45.82	5.15	13.83	45.91	5.04	13.82	46.00	4.94	13.82	46.08	4.83	13.82	46.16	4.73	13.81	46.25
5.80	13.83	45.85	5.68	13.82	45.94	5.56	13.82	46.03	5.44	13.82	46.11	5.32	13.82	46.19	5.21	13.81	46.28
8.55	13.83	45.92	8.37	13.82	46.01	8.19	13.82	46.10	8.01	13.82	46.18	7.83	13.81	46.27	7.65	13.81	46.35
1.66	16.78	39.06	1.64	16.68	39.32	1.62	16.59	39.57	1.60	16.52	39.79	1.58	16.45	40.00	1.56	16.39	40.20
1.86	15.97	41.69	1.83	15.94	41.85	1.81	15.91	41.99	1.78	15.88	42.13	1.76	15.85	42.27	1.74	15.82	42.40
2.09	15.76	42.74	2.06	15.74	42.87	2.03	15.72	43.00	2.00	15.70	43.12	1.97	15.68	43.24	1.94	15.67	43.36
2.35	15.67	43.31	2.31	15.66	43.43	2.27	15.64	43.55	2.24	15.63	43.67	2.20	15.62	43.78	2.16	15.60	43.89
2.61	15.63	43.66	2.57	15.62	43.78	2.52	15.60	43.90	2.48	15.59	44.01	2.44	15.58	44.12	2.40	15.57	44.23
2.89	15.60	43.89	2.84	15.59	44.01	2.79	15.58	44.13	2.74	15.57	44.24	2.69	15.56	44.35	2.64	15.56	44.46
3.46	15.58	44.18	3.39	15.57	44.29	3.33	15.56	44.41	3.26	15.55	44.52	3.20	15.55	44.63	3.14	15.54	44.74
4.04	15.57	44.33	3.96	15.56	44.45	3.88	15.55	44.57	3.80	15.54	44.68	3.73	15.54	44.79	3.65	15.53	44.90
4.64	15.56	44.43	4.54	15.55	44.55	4.45	15.54	44.66	4.36	15.54	44.78	4.27	15.53	44.89	4.18	15.53	45.00
5.24	15.55	44.50	5.13	15.55	44.61	5.03	15.54	44.73	4.92	15.54	44.84	4.82	15.53	44.95	4.71	15.53	45.06
5.85	15.55	44.54	5.73	15.55	44.66	5.61	15.54	44.77	5.49	15.53	44.89	5.37	15.53	45.00	5.25	15.53	45.11
6.47	15.55	44.57	6.33	15.54	44.69	6.19	15.54	44.81	6.06	15.53	44.92	5.93	15.53	45.03	5.80	15.53	45.14
9.57	15.55	44.65	9.36	15.54	44.77	9.16	15.53	44.88	8.95	15.53	45.00	8.75	15.53	45.11	8.55	15.53	45.22
1.77	19.05	36.16	1.74	18.85	36.65	1.71	18.69	37.08	1.68	18.55	37.45	1.66	18.43	37.79	1.64	18.32	38.09
1.97	17.81	39.83	1.95	17.76	40.05	1.92	17.71	40.27	1.89	17.66	40.47	1.86	17.62	40.66	1.83	17.59	40.84
2.24	17.53	41.11	2.20	17.50	41.30	2.17	17.47	41.48	2.13	17.44	41.65	2.10	17.42	41.81	2.07	17.40	41.97
2.53	17.42	41.79	2.48	17.40	41.96	2.44	17.38	42.12	2.40	17.36	42.28	2.36	17.34	42.44	2.32	17.32	42.59
2.82	17.37	42.19	2.77	17.35	42.36	2.72	17.33	42.52	2.67	17.31	42.68	2.63	17.30	42.83	2.58	17.29	42.97
3.13	17.34	42.46	3.08	17.32	42.62	3.02	17.30	42.78	2.96	17.29	42.94	2.93	17.28	43.08	2.85	17.27	43.23
3.77	17.30	42.78	3.70	17.29	42.94	3.63	17.28	43.10	3.55	17.27	43.25	3.48	17.26	43.40	3.41	17.25	43.54
4.43	17.29	42.96	4.34	17.28	43.12	4.25	17.27	43.27	4.16	17.26	43.42	4.07	17.25	43.57	3.99	17.24	43.72
5.10	17.28	43.07	4.99	17.27	43.23	4.88	17.26	43.38	4.78	17.25	43.53	4.68	17.24	43.68	4.58	17.24	43.83
5.77	17.28	43.14	5.65	17.26	43.30	5.53	17.26	43.45	5.41	17.25	43.60	5.29	17.24	43.75	5.17	17.24	43.90
6.45	17.27	43.19	6.31	17.26	43.35	6.18	17.25	43.50	6.04	17.25	43.65	5.91	17.24	43.80	5.78	17.24	43.95
7.13	17.27	43.22	6.98	17.26	43.38	6.83	17.25	43.54	6.68	17.24	43.69	6.53	17.24	43.84	6.38	17.23	43.98
10.57	17.26	43.31	10.34	17.26	43.47	10.11	17.25	43.62	9.89	17.24	43.77	9.66	17.24	43.92	9.44	17.23	44.07
1.93	22.45	31.03	1.86	21.51	32.90	1.81	21.07	33.89	1.78	20.77	34.62	1.74	20.53	35.21	1.71	20.35	35.71
2.10	19.70	37.74	2.06	19.62	38.08	2.03	19.54	38.39	1.99	19.47	38.67	1.96	19.41	38.94	1.93	19.36	39.20
2.39	19.33	39.35	2.35	19.28	39.61	2.31	19.23	39.86	2.27	19.19	40.09	2.23	19.16	40.31	2.19	19.13	40.53
2.71	19.18	40.15	2.66	19.15	40.39	2.61	19.12	40.61	2.56	19.09	40.83	2.51	19.06	41.04	2.47	19.04	41.24
3.04	19.11	40.63	2.98	19.08	40.85	2.93	19.06	41.07	2.87	19.04	41.28	2.82	19.02	41.48	2.76	19.00	41.67
3.38	19.07	40.94	3.32	19.05	41.16	3.25	19.03	41.37	3.19	19.01	41.57	3.13	18.99	41.77	3.06	18.98	41.96
4.09	19.03	41.30	4.01	19.01	41.51	3.93	18.99	41.72	3.84	18.98	41.92	3.76	18.97	42.12	3.69	18.96	42.31
4.82	19.01	41.50	4.72	19.00	41.71	4.62	18.98	41.92	4.52	18.97	42.12	4.42	18.96	42.31	4.33	18.95	42.50
5.59	19.00	41.62	5.43	18.99	41.83	5.32	18.97	42.04	5.20	18.96	42.23	5.09	18.95	42.43	4.98	18.94	42.62
6.29	19.00	41.70	6.16	18.98	41.91	6.03	18.97	42.11	5.89	18.96	42.31	5.76	18.95	42.50	5.63	18.94	42.69
7.04	18.99	41.76	6.89	18.98	41.96	6.74	18.96	42.17	6.59	18.95	42.37	6.44	18.94	42.56	6.30	18.94	42.75
7.79	18.99	41.79	7.62	18.97	42.00	7.45	18.96	42.21	7.29	18.95	42.40	7.12	18.94	42.60	6.96	18.94	42.78
11.58	18.98	41.89	11.32	18.97	42.10	11.07	18.96	42.30	10.82	18.95	42.50	10.57	18.94	42.69	10.32	18.94	42.88
-	-	-	-	-	-	-	-	-	1.90	23.68	30.29	1.85	22.98	31.83	1.80	22.57	32.81
2.23	21.69	35.30	2.18	21.54	35.83	2.14	21.41	36.29	2.10	21.31	36.71	2.06	21.22	37.09	2.03	21.14	37.45
2.54	21.15	37.39	2.49	21.07	37.76	2.45	21.01	38.11	2.40	20.95	38.43	2.36	20.90	38.73	2.31	20.86	39.02
2.89	20.96	38.37	2.83	20.91	38.69	2.78	20.86	39.00	2.73	20.82	39.29	2.67	20.78	39.57	2.62	20.75	39.83
3.26	20.87	38.93	3.19	20.83	39.24	3.13	20.79	39.53	3.07	20.76	39.80	3.01	20.73	40.07	2.95	20.70	40.32
3.64	20.82	39.29	3.56	20.78	39.59	3.49	20.75	39.87	3.42	20.72	40.14	3.35	20.70	40.40	3.28	20.68	40.64
4.41	20.77	39.71	4.32	20.74	39.99	4.23	20.71	40.27	4.14	20.69	40.53	4.05	20.67	40.78	3.96	20.66	41.03
5.20	20.74	39.94	5.09	20.71	40.22	4.98	20.69	40.49	4.87	20.67	40.75	4.77	20.66	40.99	4.66	20.65	41.24
6.01	20.73	40.07	5.88	20.70	40.35	5.75	20.68	40.62	5.62	20.66	40.88	5.49	20.65	41.12	5.37	20.64	41.36
6.82	20.72	40.16	6.67	20.70	40.44	6.52	20.68	40.71	6.37	20.66	40.96	6.23	20.65	41.21	6.09	20.64	41.45
7.63	20.71	40.22	7.46	20.69	40.50	7.30	20.67	40.76	7.13	20.66	41.02	6.97	20.64	41.27	6.81	20.64	41.51
8.45	20.71	40.27	8.26	20.69	40.54	8.08	20.67	40.81	7.89	20.65	41.06	7.71	20.64	41.31	7.54	20.63	41.55
12.57	20.70	40.37	12.29	20.68	40.65	12.01	20.66	40.91	11.73	20.65	41.16	11.46	20.64	41.41	11.19	20.63	41.65
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.92	25.54	28.28
2.37	23.93	32.16	2.31	23.61	33.11	2.26	23.38	33.86	2.21	23.20	34.49	2.17	23.06	35.05	2.13	22.94	35.55
2.70	23.03	35.15	2.64	22.91	35.69	2.59	22.81	36.18	2.54	22.72	36.63	2.49	22.65	37.04	2.44	22.59	37.42
3.08	22.77	36.38	3.02	22.68	36.84	2.95	22.61	37.26	2.89	22.55	37.65	2.83	22.50	38.01	2.78	22.46	38.36
3.48	22.64	37.06	3.40	22.58	37.48	3.33	22.52	37.87	3.26	22.48	38.24	3.19	22.44	38.58	3.13	22.41	38.91
3.89	22.58	37.49	3.81	22.52	37.89	3.72	22.47	38.26	3.64	22.43	38.62	3.57	22.40	38.95	3.49	22.38	39.27
4.73	22.51	37.98	4.63	22.46	38.36	4.53	22.42	38.72	4.43	22.39	39.06	4.33	22.37	39.38	4.23	22.35	39.69
5.59	22.48	38.24	5.47	22.44	38.61	5.34	22.40	38.97	5.23	22.38	39.30	5.11	22.35	39.62	4.99	22.34	39.93
6.46	22.46	38.40	6.32	22.42	38.77	6.17	22.39	39.11	6.03	22.36	39.44	5.90	22.35	39.76	5.76	22.33	40.07
7.34	22.45	38.50	7.17	22.41	38.86	7.01	22.38	39.21	6.85	22.36	39.54	6.69	22.34	39.85	6.54	22.33	40.16
8.22	22.44	38.57	8.03	22.40	38.93	7.85	22.38	39.28	7.67	22.35	39.60	7.49	22.34	39.92	7.32	22.33	40.22
9.11	22.43	38.62	8.90	22.40	38.98	8.69	22.37	39.32	8.49	22.35	39.65	8.30	22.34	39.96	8.10	22.32	40.27
13.56	22.42	38.74	13.25	22.39	39.10	12.94	22.37	39.44	12.64	22.35	39.76	12.34	22.33	40.07	12.05	22.32	40.37
-	-	-	2.48	26.13	29.17	2.40	25.55	30.77	2.33	25.21	31.86	2.28	24.97	32.72	2.23	24.78	33.44
2.87	25.04	32.43	2.80	24.82	33.29	2.74	24.65	34.01	2.68	24.52	34.64	2.62	24.41	35.20	2.57	24.32	35.71
3.28	24.63	34.10	3.20	24.49	34.75	3.13	24.39	35.34	3.06	24.30	35.87	2.99	24.23	36.35	2.93	24.17	36.80
3.70	24.45	34.96	3.62	24.35	35.54	3.54	24.27	36.07	3.46	24.20	36.56	3.38	24.15	37.01	3.31	24.10	37.43
4.15	24.36	35.48	4.05	24.27	36.03	3.96	24.20	36.53	3.87	24.15	36.99	3.79	24.10	37.43	3.70	24.07	37.83
5.05	24.27	36.07	4.94	24.20	36.58	4.82	24.14	37.05	4.71	24.10	37.50	4.61	24.06	37.91	4.50	24.04	38.30
5.98	24.22	36.38	5.84	24.16	36.87	5.71	24.11	37.33	5.57	24.07	37.77	5.45	24.04	38.17	5.32	24.02	38.56
6.92	24.20	36.56	6.76	24.14	37.05	6.60	24.10	37.50	6.44	24.06	37.93	6.30	24.03	38.33	6.15	24.01	38.71
7.86	24.19	36.68	7.68	24.13	37.16	7.50	24.09	37.61	7.32	24.05	38.03	7.15	24.03	38.43	6.98	24.01	38.81
8.81	24.18	36.76	8.60	24.12	37.24	9.40	24.08	37.69	8.20	24.05	38.11	8.01	24.03	38.50	7.82	24.01	38.88
9.76	24.17	36.82	9.53	24.12	37.29	9.31	24.08	37.74	9.09	24.05	38.16	8.87	24.02	38.55	8.66	24.01	38.93
14.54	24.15	36.95	14.20	24.10	37.42	13.86	24.07	37.86	13.53	24.04	38.28	13.21	24.02	38.67	12.90	24.00	39.05
-	-	-	-	-	-	-	-	-	2.47	27.54	28.29	2.40	27.01	29.89	2.34	26.69	31.03

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(m) $\epsilon_p = 45°$; $\Gamma = 30°$; $\epsilon_r = 35.26°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
30	37.58	45.24	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	42.80	36.82	3.60	27.00	29.93	14.92	.2311	2.63
			7.0	-	-	-	-	-	-	-	-	43.39	35.35	4.05	26.58	31.43	18.97	.2175	2.84
			8.0	-	-	-	-	-	-	-	-	43.66	34.50	4.53	26.39	32.24	23.78	.2073	3.00
			10.0	-	-	-	-	-	-	-	-	43.92	33.54	5.53	26.21	33.08	35.45	.1940	3.20
			12.0	-	-	-	-	-	-	-	-	44.05	33.03	6.54	26.13	33.51	49.75	.1861	3.33
			14.0	-	-	-	-	-	-	-	-	44.11	32.73	7.57	26.09	33.76	66.68	.1812	3.41
			16.0	-	-	-	-	-	-	-	-	44.15	32.54	8.61	26.06	33.91	86.23	.1779	3.47
			18.0	-	-	-	-	-	-	-	-	44.18	32.40	9.65	26.04	34.02	108.4	.1756	3.50
			20.0	-	-	-	-	-	-	-	-	44.20	32.31	10.69	26.03	34.10	131.1	.1740	3.53
			30.0	-	-	-	-	-	-	-	-	44.24	32.08	15.93	26.00	34.27	296.1	.1699	3.60
32	40.39	45.09	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	41.95	36.63	4.37	29.09	26.97	22.11	.2103	2.57
			8.0	-	-	-	-	-	-	-	-	42.67	37.34	4.85	28.58	28.64	27.31	.2021	2.74
			10.0	-	-	-	-	-	-	-	-	43.19	36.15	5.90	28.22	30.01	40.43	.1906	2.94
			12.0	-	-	-	-	-	-	-	-	43.40	35.56	6.98	28.08	30.64	56.66	.1838	3.05
			14.0	-	-	-	-	-	-	-	-	43.51	35.22	8.07	28.00	30.98	75.89	.1794	3.12
			16.0	-	-	-	-	-	-	-	-	43.58	35.01	9.18	27.96	31.20	98.12	.1766	3.17
			18.0	-	-	-	-	-	-	-	-	43.62	34.86	10.29	27.93	31.35	123.3	.1745	3.21
			20.0	-	-	-	-	-	-	-	-	43.65	34.75	11.40	27.91	31.45	151.5	.1731	3.23
			30.0	-	-	-	-	-	-	-	-	43.72	34.51	17.00	27.86	31.68	336.9	.1696	3.29
34	43.21	45.01	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	41.22	40.06	6.44	31.13	24.16	48.15	.1868	2.58
			12.0	-	-	-	-	-	-	-	-	42.18	38.73	7.51	30.45	26.26	65.61	.1814	2.74
			14.0	-	-	-	-	-	-	-	-	42.49	38.21	8.66	30.24	27.00	87.31	.1778	2.82
			16.0	-	-	-	-	-	-	-	-	42.65	37.90	9.83	30.13	27.42	112.5	.1753	2.87
			18.0	-	-	-	-	-	-	-	-	42.75	37.70	11.01	30.06	27.68	141.2	.1735	2.90
			20.0	-	-	-	-	-	-	-	-	42.81	37.56	12.19	30.02	27.86	173.3	.1723	2.93
			30.0	-	-	-	-	-	-	-	-	42.96	37.25	18.16	29.92	28.25	384.5	.1692	2.98
36	46.04	45.00	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	48.87	45.07	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	51.68	45.20	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	54.48	45.39	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(m) $\epsilon_p = 45°$; $\Gamma = 30°$; $\epsilon_r = 35.26°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
3.08	27.46	28.51	2.97	26.90	30.26	2.89	26.58	31.44	2.82	26.36	32.38	2.75	26.19	33.18	2.69	26.07	33.87
3.48	26.62	31.29	3.39	26.37	32.32	3.31	26.20	33.17	3.23	26.06	33.90	3.15	25.96	34.55	3.08	25.88	35.14
3.94	26.34	32.48	3.84	26.16	33.33	3.74	26.03	34.07	3.66	25.93	34.73	3.57	25.86	35.32	3.49	25.80	35.86
4.41	26.20	33.16	4.30	26.06	33.93	4.20	25.95	34.62	4.10	25.87	35.23	4.00	25.80	35.80	3.91	25.76	36.32
5.38	26.06	33.89	5.25	25.95	34.60	5.12	25.87	35.24	5.00	25.80	35.81	4.88	25.75	36.35	4.77	25.72	36.85
6.37	26.00	34.28	6.22	25.90	34.95	6.07	25.83	35.56	5.92	25.77	36.12	5.78	25.73	36.64	5.65	25.70	37.13
7.38	25.97	34.50	7.19	25.88	35.16	7.02	25.81	35.76	6.85	25.76	36.31	6.69	25.72	36.82	6.53	25.69	37.30
8.39	25.95	34.64	8.18	25.86	35.29	7.98	25.80	35.88	7.79	25.75	36.43	7.60	25.71	36.93	7.42	25.69	37.41
9.40	25.93	34.74	9.17	25.85	35.38	8.94	25.79	35.97	8.73	25.74	36.51	8.52	25.71	37.01	8.32	25.68	37.48
10.42	25.92	34.81	10.16	25.84	35.45	9.91	25.78	36.03	9.67	25.74	36.56	9.44	25.70	37.07	9.21	25.68	37.54
15.53	25.90	34.97	15.14	25.83	35.60	14.77	25.77	36.17	14.41	25.73	36.70	14.07	25.70	37.20	13.73	25.68	37.67
-	-	-	-	-	-	-	-	-	-	-	-	2.55	29.56	25.63	2.65	28.76	28.03
-	-	-	3.24	30.08	24.27	3.07	28.75	28.05	2.97	28.30	29.67	2.89	28.03	30.86	2.82	27.83	31.83
3.74	29.05	27.11	3.60	28.42	29.24	3.49	28.08	30.61	3.40	27.86	31.68	3.32	27.71	32.58	3.24	27.59	33.35
4.19	28.41	29.28	4.07	28.06	30.70	3.95	27.84	31.79	3.86	27.69	32.70	3.76	27.57	33.49	3.67	27.49	34.19
4.69	28.15	30.30	4.55	27.90	31.50	4.43	27.72	32.47	4.32	27.60	33.31	4.22	27.51	34.06	4.12	27.44	34.71
5.72	27.93	31.32	5.56	27.74	32.35	5.42	27.61	33.22	5.29	27.51	33.99	5.16	27.44	34.68	5.04	27.39	35.30
6.77	27.84	31.82	6.59	27.67	32.78	6.42	27.56	33.61	6.26	27.47	34.34	6.11	27.41	35.01	5.97	27.37	35.62
7.84	27.78	32.10	7.63	27.64	33.03	7.44	27.53	33.84	7.25	27.45	34.56	7.08	27.40	35.21	6.91	27.36	35.81
8.92	27.75	32.29	8.68	27.61	33.19	8.46	27.51	33.98	8.25	27.44	34.69	8.05	27.39	35.34	7.85	27.35	35.93
10.00	27.73	32.41	9.73	27.60	33.30	9.48	27.50	34.08	9.25	27.43	34.78	9.02	27.38	35.42	8.80	27.35	36.02
11.08	27.72	32.49	10.79	27.59	33.38	10.51	27.49	34.15	10.25	27.43	34.85	10.00	27.38	35.49	9.75	27.35	36.08
16.52	27.69	32.70	16.08	27.56	33.56	15.67	27.48	34.32	15.28	27.41	35.01	14.91	27.37	35.63	14.54	27.34	36.22
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.62	31.66	22.73
-	-	-	-	-	-	-	-	-	3.14	30.56	25.91	3.04	29.96	28.07	2.95	29.64	29.52
-	-	-	-	-	-	3.69	30.17	27.27	3.58	29.74	29.05	3.48	29.48	30.34	3.39	29.31	31.40
-	-	-	4.32	30.20	27.14	4.17	29.74	29.03	4.06	29.48	30.38	3.95	29.30	31.46	3.85	29.18	32.39
5.03	30.54	25.97	4.83	29.88	28.43	4.68	29.55	29.95	4.55	29.35	31.14	4.44	29.21	32.13	4.33	29.12	32.99
6.09	30.00	27.91	5.89	29.62	29.64	5.72	29.39	30.92	5.57	29.23	31.96	5.43	29.13	32.87	5.30	29.06	33.67
7.20	29.82	28.70	6.98	29.50	30.22	6.78	29.31	31.40	6.60	29.18	32.39	6.44	29.09	33.25	6.28	29.03	34.02
8.33	29.72	29.12	8.08	29.45	30.55	7.86	29.27	31.68	7.65	29.15	32.64	7.46	29.07	33.48	7.27	29.02	34.24
9.47	29.67	29.38	9.19	29.41	30.76	8.94	29.25	31.86	8.70	29.14	32.80	8.48	29.06	33.62	8.27	29.01	34.37
10.62	29.63	29.56	10.30	29.39	30.89	10.02	29.23	31.98	9.76	29.13	32.90	9.51	29.05	33.72	9.28	29.01	34.47
11.77	29.61	29.68	11.42	29.37	30.99	11.11	29.22	32.06	10.82	29.12	32.98	10.55	29.05	33.79	10.29	29.00	34.53
17.55	29.55	29.96	17.03	29.34	31.22	16.57	29.20	32.26	16.14	29.10	33.16	15.73	29.04	33.96	15.34	29.00	34.69
-	-	-	-	-	-	-	-	-	-	-	-	3.21	32.25	24.05	3.09	31.54	26.74
-	-	-	-	-	-	-	-	-	3.77	31.84	25.53	3.65	31.33	27.70	3.54	31.05	29.21
-	-	-	-	-	-	4.43	31.94	25.15	4.26	31.36	27.57	4.14	31.06	29.16	4.03	30.88	30.41
-	-	-	5.20	32.65	22.77	4.94	31.56	26.74	4.78	31.16	28.60	4.65	30.94	29.99	4.53	30.80	31.12
-	-	-	6.25	31.73	25.92	6.03	31.24	28.16	5.85	30.98	29.66	5.70	30.82	30.88	5.55	30.72	31.91
7.84	32.77	22.41	7.39	31.50	26.90	7.15	31.12	28.79	6.94	30.91	30.19	6.76	30.77	31.33	6.59	30.69	32.32
8.95	32.18	24.30	8.55	31.39	27.41	8.28	31.06	29.16	8.05	30.87	30.49	7.83	30.75	31.60	7.64	30.67	32.56
10.14	31.98	24.97	9.72	31.33	27.71	9.42	31.02	29.39	9.16	30.85	30.68	8.92	30.78	31.77	8.69	30.66	32.71
11.35	31.88	25.36	10.90	31.29	27.92	10.56	31.00	29.54	10.27	30.83	30.81	10.00	30.72	31.88	9.75	30.66	32.82
12.56	31.81	25.61	12.08	31.26	28.06	11.71	30.98	29.65	11.39	30.82	30.91	11.09	30.72	31.96	10.81	30.65	32.89
18.70	31.68	26.15	18.02	31.20	28.38	17.47	30.95	29.90	16.99	30.80	31.12	16.54	30.70	32.16	16.13	30.64	33.07
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.24	33.74	22.80
-	-	-	-	-	-	-	-	-	-	-	-	3.83	33.37	24.21	3.70	32.84	26.67
-	-	-	-	-	-	-	-	-	4.50	33.53	23.57	4.33	32.89	26.42	4.21	32.59	28.20
-	-	-	-	-	-	-	-	-	5.03	33.10	25.37	4.87	32.70	27.52	4.73	32.48	29.07
-	-	-	-	-	-	6.38	33.36	24.25	6.15	32.80	26.91	5.96	32.53	28.64	5.80	32.38	30.00
-	-	-	-	-	-	7.54	33.10	25.39	7.29	32.68	27.61	7.08	32.46	29.20	6.89	32.34	30.47
-	-	-	9.23	34.23	21.15	8.73	32.98	25.97	8.45	32.62	28.01	8.21	32.43	29.52	7.99	32.32	30.75
-	-	-	10.40	33.78	22.64	9.92	32.91	26.31	9.61	32.58	28.25	9.34	32.41	29.72	9.10	32.30	30.93
-	-	-	11.62	33.62	23.23	11.13	32.87	26.53	10.78	32.56	28.42	10.48	32.39	29.85	10.20	32.30	31.05
-	-	-	12.86	33.53	23.58	12.33	32.84	26.69	11.95	32.55	28.53	11.62	32.38	29.95	11.32	32.29	31.13
-	-	-	19.13	33.35	24.28	18.40	32.77	27.04	17.84	32.51	28.80	17.34	32.36	30.18	16.89	32.28	31.33
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.87	34.76	23.43
-	-	-	-	-	-	-	-	-	-	-	-	4.55	34.94	22.64	4.39	34.35	25.63
-	-	-	-	-	-	-	-	-	-	-	-	5.09	34.55	24.45	4.93	34.18	26.74
-	-	-	-	-	-	-	-	-	6.47	34.83	23.14	6.23	34.28	26.02	6.05	34.04	27.89
-	-	-	-	-	-	-	-	-	7.65	34.58	24.32	7.40	34.18	26.74	7.19	33.99	28.46
-	-	-	-	-	-	-	-	-	8.86	34.47	24.92	8.58	34.13	27.15	8.34	33.96	28.78
-	-	-	-	-	-	10.56	35.34	21.07	10.08	34.40	25.28	9.76	34.10	27.40	9.49	33.94	28.99
-	-	-	-	-	-	11.80	35.15	21.77	11.30	34.37	25.51	10.95	34.08	27.57	10.65	33.93	29.13
-	-	-	-	-	-	13.06	35.05	22.17	12.53	34.34	25.67	12.15	34.06	27.69	11.81	33.92	29.23
-	-	-	-	-	-	19.44	34.87	22.95	18.69	34.28	26.04	18.13	34.03	27.97	17.64	33.91	29.47
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.58	36.22	22.34
-	-	-	-	-	-	-	-	-	-	-	-	5.38	36.95	19.18	5.14	35.93	23.98
-	-	-	-	-	-	-	-	-	-	-	-	6.52	36.16	22.64	6.30	35.72	25.49
-	-	-	-	-	-	-	-	-	-	-	-	7.73	35.97	23.74	7.49	35.64	26.20
-	-	-	-	-	-	-	-	-	9.37	36.82	19.68	8.95	35.88	24.31	8.68	35.60	26.60
-	-	-	-	-	-	-	-	-	10.62	36.57	20.74	10.19	35.83	24.66	9.89	35.58	26.85
-	-	-	-	-	-	-	-	-	11.89	36.44	21.27	11.43	35.80	24.89	11.09	35.56	27.02
-	-	-	-	-	-	-	-	-	13.17	36.37	21.61	12.67	35.78	25.05	12.30	35.55	27.14
-	-	-	-	-	-	-	-	-	19.62	36.23	22.31	18.92	35.73	25.41	18.37	35.53	27.42

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(n) $\epsilon_p = 30°$; $\Gamma = 0°$; $\epsilon_r = 0°$

			$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
α, deg	δ_N, deg	ϵ_e, deg	M_∞	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	4.00	30.06	3.0	29.89	21.52	1.10	2.59	28.35	1.26	.8697	2.81	29.95	21.28	1.09	2.57	28.39	1.22	.8697	2.87
			4.0	30.01	16.16	1.11	2.24	29.00	1.30	.8555	3.75	30.03	15.97	1.10	2.23	29.02	1.25	.8545	3.84
			5.0	30.03	13.11	1.13	2.13	29.26	1.36	.8330	4.66	30.05	12.94	1.12	2.13	29.27	1.30	.8313	4.78
			6.0	30.04	11.13	1.16	2.08	29.41	1.43	.8092	5.55	30.05	10.96	1.14	2.08	29.42	1.35	.8067	5.71
			7.0	30.04	9.74	1.18	2.06	29.51	1.50	.7856	6.41	30.05	9.57	1.16	2.06	29.52	1.41	.7822	6.62
			8.0	30.05	8.70	1.21	2.04	29.58	1.58	.7626	7.25	30.05	8.53	1.19	2.04	29.59	1.48	.7583	7.52
			10.0	30.05	7.27	1.26	2.03	29.67	1.75	.7192	8.88	30.06	7.10	1.24	2.02	29.68	1.61	.7129	9.29
			12.0	30.05	6.33	1.32	2.02	29.73	1.94	.6795	10.43	30.06	6.15	1.29	2.02	29.74	1.76	.6708	11.00
			14.0	30.05	5.66	1.38	2.01	29.78	2.14	.6434	11.91	30.06	5.48	1.34	2.01	29.79	1.92	.6321	12.67
			16.0	30.05	5.17	1.44	2.01	29.81	2.35	.6106	13.31	30.06	4.99	1.39	2.01	29.82	2.09	.5967	14.28
			18.0	30.05	4.80	1.51	2.01	29.83	2.59	.5810	14.64	30.06	4.61	1.45	2.01	29.84	2.28	.5643	15.84
			20.0	30.05	4.51	1.57	2.01	29.85	2.84	.5542	15.91	30.06	4.32	1.50	2.00	29.86	2.48	.5346	17.35
			30.0	30.05	3.67	1.92	2.00	29.90	4.36	.4540	21.28	30.06	3.46	1.81	2.00	29.91	3.66	.4209	24.14
4	7.96	30.24	3.0	29.44	24.01	1.22	5.46	26.29	1.61	.7535	2.62	29.74	23.36	1.19	5.29	26.54	1.48	.7555	2.74
			4.0	30.03	18.03	1.24	4.49	27.96	1.67	.7398	3.52	30.12	17.60	1.21	4.45	28.04	1.54	.7364	3.68
			5.0	30.12	14.88	1.28	4.26	28.53	1.81	.7055	4.35	30.18	14.48	1.25	4.24	28.59	1.66	.6996	4.57
			6.0	30.16	12.87	1.34	4.16	28.84	1.98	.6702	5.13	30.20	12.49	1.30	4.15	28.90	1.80	.6618	5.43
			7.0	30.17	11.48	1.39	4.11	29.04	2.18	.6367	5.87	30.21	11.10	1.35	4.10	29.09	1.95	.6257	6.26
			8.0	30.18	10.47	1.45	4.08	29.18	2.39	.6056	6.58	30.22	10.08	1.40	4.07	29.23	2.12	.5919	7.07
			10.0	30.19	9.09	1.58	4.05	29.36	2.87	.5511	7.88	30.22	8.69	1.51	4.04	29.42	2.50	.5318	8.61
			12.0	30.19	8.21	1.71	4.03	29.48	3.42	.5061	9.05	30.22	7.80	1.63	4.03	29.53	2.92	.4811	10.04
			14.0	30.20	7.61	1.85	4.02	29.55	4.05	.4689	10.09	30.22	7.18	1.75	4.02	29.61	3.41	.4386	11.38
			16.0	30.20	7.18	2.00	4.02	29.61	4.75	.4383	11.02	30.23	6.74	1.88	4.01	29.66	3.95	.4029	12.61
			18.0	30.20	6.86	2.15	4.02	29.65	5.53	.4130	11.84	30.23	6.41	2.01	4.01	29.70	4.55	.3730	13.75
			20.0	30.20	6.62	2.30	4.01	29.68	6.39	.3920	12.56	30.23	6.16	2.15	4.01	29.74	5.20	.3478	14.79
			30.0	30.20	5.97	3.12	4.01	29.76	11.93	.3278	15.09	30.23	5.48	2.86	4.00	29.82	9.40	.2683	18.81
6	11.87	30.54	3.0	-	-	-	-	-	-	-	-	29.97	26.14	1.32	8.61	23.82	1.87	.6437	2.57
			4.0	30.03	20.12	1.38	6.80	26.80	2.12	.6465	3.30	30.26	19.37	1.33	6.69	27.04	1.89	.6401	3.52
			5.0	30.26	16.83	1.45	6.41	27.75	2.37	.6082	4.05	30.40	16.16	1.39	6.35	27.92	2.09	.5968	4.36
			6.0	30.34	14.81	1.53	6.25	28.24	2.69	.5693	4.74	30.45	14.16	1.47	6.21	28.39	2.35	.5534	5.15
			7.0	30.38	13.44	1.63	6.17	28.55	3.06	.5338	5.37	30.47	12.79	1.55	6.14	28.69	2.64	.5135	5.91
			8.0	30.40	12.46	1.73	6.13	28.76	3.48	.5023	5.95	30.48	11.80	1.64	6.10	28.89	2.96	.4778	6.62
			10.0	30.42	11.16	1.94	6.08	29.02	4.44	.4508	6.96	30.49	10.49	1.82	6.06	29.16	3.70	.4183	7.93
			12.0	30.43	10.36	2.16	6.06	29.18	5.58	.4118	7.81	30.50	9.66	2.01	6.04	29.32	4.57	.3720	9.09
			14.0	30.44	9.83	2.39	6.04	29.28	6.90	.3821	8.52	30.50	9.11	2.22	6.03	29.42	5.57	.3361	10.12
			16.0	30.44	9.46	2.63	6.03	29.36	8.40	.3593	9.10	30.50	8.73	2.43	6.02	29.49	6.71	.3080	11.01
			18.0	30.44	9.19	2.88	6.03	29.41	10.09	.3415	9.59	30.50	8.45	2.64	6.02	29.55	7.99	.2858	11.79
			20.0	30.45	8.99	3.13	6.03	29.44	11.98	.3276	9.99	30.51	8.24	2.87	6.01	29.59	9.41	.2682	12.47
			30.0	30.45	8.49	4.43	6.02	29.54	24.28	.2891	11.21	30.51	7.70	4.02	6.01	29.69	18.67	.2183	14.73
8	15.70	30.95	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	29.92	22.54	1.53	9.24	25.36	2.69	.5696	3.07	30.41	21.31	1.45	8.97	25.94	2.30	.5610	3.36
			5.0	30.42	19.00	1.63	8.59	26.86	3.06	.5336	3.76	30.69	17.98	1.54	8.47	27.22	2.61	.5165	4.15
			6.0	30.58	16.95	1.75	8.36	27.56	3.58	.4957	4.36	30.78	15.98	1.65	8.28	27.87	3.02	.4722	4.88
			7.0	30.65	15.60	1.88	8.25	27.98	4.18	.4622	4.89	30.82	14.64	1.77	8.18	28.27	3.48	.4330	5.55
			8.0	30.69	14.66	2.02	8.19	28.26	4.88	.4337	5.36	30.84	13.69	1.89	8.13	28.54	4.01	.3993	6.17
			10.0	30.73	13.44	2.32	8.12	28.60	6.51	.3896	6.14	30.87	12.45	2.16	8.08	28.87	5.25	.3461	7.26
			12.0	30.75	12.71	2.64	8.09	28.80	8.47	.3584	6.74	30.88	11.70	2.43	8.05	29.07	6.74	.3075	8.18
			14.0	30.76	12.24	2.97	8.07	28.93	10.77	.3360	7.21	30.88	11.21	2.72	8.04	29.20	8.47	.2792	8.94
			16.0	30.77	11.92	3.30	8.06	29.01	13.41	.3195	7.58	30.88	10.87	3.02	8.03	29.29	10.46	.2582	9.58
			18.0	30.77	11.69	3.65	8.05	29.07	16.39	.3072	7.87	30.89	10.63	3.32	8.03	29.35	12.70	.2423	10.10
			20.0	30.78	11.52	4.00	8.05	29.12	19.72	.2979	8.10	30.89	10.45	3.63	8.02	29.39	15.19	.2300	10.53
			30.0	30.78	11.11	5.78	8.04	29.22	41.55	.2734	8.75	30.89	10.01	5.21	8.02	29.50	31.56	.1973	11.85
10	19.43	31.47	4.0	29.28	25.67	1.73	12.15	23.07	3.50	.5004	2.80	30.53	23.47	1.59	11.34	24.63	2.79	.4951	3.19
			5.0	30.55	21.42	1.83	10.85	25.76	3.92	.4756	3.47	31.05	19.94	1.71	10.60	26.46	3.23	.4533	3.94
			6.0	30.84	19.30	1.98	10.51	26.74	4.67	.4414	3.99	31.20	17.93	1.85	10.35	27.31	3.81	.4110	4.60
			7.0	30.96	17.96	2.16	10.36	27.29	5.58	.4118	4.43	31.26	16.61	2.00	10.24	27.81	4.51	.3747	5.19
			8.0	31.03	17.04	2.34	10.27	27.65	6.62	.3873	4.81	31.30	15.70	2.16	10.17	28.14	5.30	.3445	5.73
			10.0	31.10	15.88	2.74	10.18	28.07	9.12	.3509	5.40	31.33	14.54	2.51	10.10	28.55	7.18	.2989	6.63
			12.0	31.14	15.21	3.15	10.14	28.31	12.15	.3265	5.84	31.35	13.85	2.87	10.07	28.78	9.46	.2677	7.34
			14.0	31.15	14.79	3.57	10.12	28.46	15.73	.3096	6.16	31.36	13.41	3.25	10.06	28.92	12.13	.2457	7.90
			16.0	31.17	14.50	4.01	10.10	28.56	19.84	.2976	6.39	31.36	13.11	3.63	10.05	29.02	15.21	.2299	8.35
			18.0	31.17	14.31	4.45	10.09	28.62	24.49	.2888	6.58	31.37	12.90	4.02	10.04	29.09	18.68	.2182	8.70
			20.0	31.18	14.16	4.89	10.09	28.67	29.69	.2822	6.72	31.37	12.75	4.41	10.04	29.14	22.56	.2094	8.98
			30.0	31.19	13.81	7.16	10.07	28.79	63.86	.2656	7.09	31.38	12.37	6.43	10.03	29.26	48.05	.1868	9.79
12	23.03	32.10	4.0	-	-	-	-	-	-	-	-	30.44	26.02	1.75	13.97	22.80	3.42	.4374	3.00
			5.0	30.48	24.23	2.05	13.31	24.20	5.02	.4288	3.17	31.43	22.05	1.88	12.78	25.57	3.95	.4031	3.72
			6.0	31.06	21.89	2.24	12.75	25.67	6.01	.4006	3.63	31.67	20.01	2.05	12.45	26.66	4.75	.3644	4.32
			7.0	31.28	20.52	2.45	12.52	26.41	7.28	.3754	4.01	31.78	18.71	2.25	12.30	27.28	5.72	.3319	4.84
			8.0	31.40	19.60	2.68	12.40	26.86	8.76	.3549	4.31	31.83	17.83	2.45	12.22	27.68	6.84	.3055	5.30
			10.0	31.51	18.49	3.17	12.28	27.38	12.33	.3254	4.76	31.89	16.73	2.88	12.14	28.15	9.50	.2672	6.03
			12.0	31.57	17.86	3.68	12.22	27.67	16.69	.3063	5.08	31.91	16.10	3.33	12.10	28.41	12.75	.2419	6.58
			14.0	31.60	17.46	4.20	12.19	27.84	21.83	.2934	5.30	31.93	15.70	3.79	12.08	28.58	16.57	.2248	7.00
			16.0	31.62	17.20	4.73	12.17	27.95	27.76	.2844	5.46	31.93	15.43	4.26	12.07	28.69	20.97	.2127	7.32
			18.0	31.63	17.02	5.27	12.16	28.03	34.48	.2779	5.58	31.94	15.24	4.73	12.06	28.76	25.96	.2039	7.56
			20.0	31.64	16.89	5.81	12.15	28.08	41.99	.2731	5.67	31.94	15.11	5.21	12.06	28.81	31.53	.1973	7.75
			30.0	31.66	16.57	8.56	12.13	28.22	91.36	.2612	5.90	31.95	14.78	7.65	12.05	28.95	68.15	.1809	8.27
14	26.50	32.83	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	31.07	24.87	2.52	15.18	24.08	7.72	.3685	3.27	31.81	24.36	2.06	15.03	24.46	4.79	.3626	3.50
			7.0	31.51	23.34	2.77	14.79	25.17	9.37	.3483	3.60	32.19	22.22	2.27	14.58	25.89	5.84	.3285	4.05
			8.0	31.72	22.39	3.05	14.61	25.79	11.36	.3316	3.85	32.35	20.93	2.50	14.39	26.64	7.13	.2999	4.50
			10.0	31.91	21.27	3.63	14.43	26.45	16.21	.3079	4.20	32.43	20.07	2.75	14.29	27.12	8.63	.2772	4.88
			12.0	32.00	20.65	4.23	14.35	26.80	22.15	.2928	4.44	32.51	19.02	3.26	14.19	27.67	12.22	.2451	5.48
			14.0	32.05	20.27	4.85	14.31	27.01	29.18	.2828	4.60	32.55	18.42	3.79	14.14	27.97	16.61	.2246	5.91
			16.0	32.08	20.03	5.48	14.28	27.14	37.30	.2759	4.71	32.57	18.05	4.34	14.12	28.15	21.79	.2109	6.22
			18.0	32.10	19.85	6.11	14.27	27.23	46.50	.2710	4.79	32.58	17.81	4.89	14.10	28.27	27.77	.2015	6.45
			20.0	32.11	19.73	6.75	14.25	27.30	56.78	.2674	4.85	32.60	17.64	5.45	14.09	28.35	34.53	.1947	6.63
			30.0	32.15	19.44	9.98	14.23	27.45	124.4	.2585	5.01	32.61	17.22	8.88	14.07	28.55	91.82	.1772	7.11
16	29.83	33.65	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	32.03	26.96	2.27	17.47	22.89	5.83	.3288	3.26
			6.0	-	-	-	-	-	-	-	-	32.71	24.60	2.50	16.77	24.90	7.11	.3002	3.77

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(n) $\epsilon_p = 30°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.09	2.56	28.40	1.08	2.56	28.40	1.08	2.55	28.41	1.08	2.55	28.42	1.08	2.55	28.42	1.08	2.54	28.43
1.10	2.23	29.02	1.10	2.23	29.02	1.09	2.22	29.03	1.09	2.22	29.03	1.09	2.22	29.03	1.09	2.22	29.04
1.12	2.13	29.28	1.11	2.13	29.28	1.11	2.12	29.28	1.11	2.12	29.28	1.11	2.12	29.29	1.10	2.12	29.29
1.14	2.08	29.43	1.13	2.08	29.43	1.13	2.08	29.43	1.13	2.08	29.43	1.13	2.08	29.43	1.12	2.08	29.44
1.16	2.06	29.52	1.16	2.06	29.53	1.15	2.06	29.53	1.15	2.05	29.53	1.15	2.05	29.53	1.14	2.05	29.53
1.18	2.04	29.59	1.18	2.04	29.59	1.17	2.04	29.60	1.17	2.04	29.60	1.17	2.04	29.60	1.16	2.04	29.60
1.23	2.02	29.69	1.22	2.02	29.69	1.22	2.02	29.69	1.21	2.02	29.69	1.21	2.02	29.69	1.20	2.02	29.70
1.28	2.02	29.75	1.27	2.02	29.75	1.27	2.02	29.75	1.26	2.02	29.75	1.25	2.01	29.75	1.25	2.01	29.76
1.33	2.01	29.79	1.32	2.01	29.79	1.31	2.01	29.79	1.31	2.01	29.79	1.30	2.01	29.80	1.29	2.01	29.80
1.38	2.01	29.82	1.37	2.01	29.82	1.36	2.01	29.82	1.36	2.01	29.83	1.35	2.01	29.83	1.34	2.01	29.83
1.44	2.01	29.84	1.43	2.01	29.84	1.42	2.01	29.85	1.41	2.01	29.85	1.39	2.01	29.85	1.38	2.01	29.85
1.49	2.00	29.86	1.48	2.00	29.86	1.47	2.00	29.87	1.46	2.00	29.87	1.44	2.00	29.87	1.43	2.00	29.87
1.79	2.00	29.91	1.77	2.00	29.92	1.75	2.00	29.92	1.73	2.00	29.92	1.71	2.00	29.92	1.69	2.00	29.93
1.18	5.26	26.58	1.18	5.24	26.62	1.17	5.21	26.66	1.17	5.19	26.69	1.16	5.17	26.73	1.16	5.14	26.76
1.20	4.45	28.06	1.20	4.44	28.07	1.19	4.43	28.09	1.19	4.43	28.10	1.18	4.42	28.12	1.18	4.41	28.13
1.24	4.24	28.60	1.24	4.23	28.61	1.23	4.23	28.63	1.23	4.23	28.64	1.22	4.22	28.65	1.22	4.22	28.66
1.29	4.15	28.91	1.28	4.14	28.92	1.28	4.14	28.93	1.27	4.14	28.94	1.26	4.14	28.95	1.26	4.13	28.96
1.34	4.10	29.10	1.33	4.10	29.11	1.32	4.09	29.12	1.31	4.09	29.13	1.31	4.09	29.14	1.30	4.09	29.15
1.39	4.07	29.24	1.38	4.07	29.25	1.37	4.07	29.26	1.36	4.07	29.27	1.35	4.06	29.28	1.34	4.06	29.29
1.50	4.04	29.43	1.49	4.04	29.44	1.47	4.04	29.44	1.46	4.04	29.45	1.45	4.04	29.46	1.44	4.03	29.47
1.61	4.03	29.54	1.60	4.03	29.55	1.58	4.02	29.56	1.57	4.02	29.57	1.55	4.02	29.58	1.54	4.02	29.59
1.73	4.02	29.62	1.71	4.02	29.63	1.69	4.02	29.64	1.68	4.02	29.65	1.66	4.01	29.66	1.64	4.01	29.67
1.86	4.01	29.67	1.83	4.01	29.68	1.81	4.01	29.69	1.79	4.01	29.70	1.77	4.01	29.71	1.75	4.01	29.72
1.98	4.01	29.72	1.96	4.01	29.73	1.93	4.01	29.74	1.91	4.01	29.74	1.88	4.01	29.75	1.86	4.01	29.76
2.12	4.01	29.75	2.09	4.01	29.76	2.06	4.01	29.77	2.03	4.01	29.78	2.00	4.01	29.79	1.97	4.01	29.80
2.82	4.00	29.83	2.77	4.00	29.84	2.72	4.00	29.85	2.68	4.00	29.86	2.63	4.00	29.87	2.59	4.00	29.89
1.31	8.43	24.06	1.29	8.29	24.26	1.28	8.18	24.43	1.27	8.08	24.58	1.26	7.99	24.72	1.25	7.91	24.84
1.32	6.67	27.08	1.31	6.65	27.12	1.30	6.64	27.16	1.29	6.62	27.20	1.28	6.61	27.23	1.28	6.59	27.27
1.38	6.34	27.95	1.37	6.33	27.98	1.36	6.32	28.01	1.35	6.31	28.03	1.34	6.30	28.06	1.33	6.30	28.09
1.46	6.21	28.42	1.44	6.20	28.44	1.43	6.19	28.47	1.42	6.19	28.49	1.41	6.18	28.52	1.40	6.17	28.54
1.54	6.14	28.71	1.52	6.13	28.74	1.51	6.13	28.76	1.49	6.12	28.78	1.48	6.12	28.81	1.47	6.11	28.83
1.62	6.10	28.92	1.60	6.09	28.94	1.59	6.09	28.96	1.57	6.08	28.99	1.56	6.08	29.01	1.54	6.08	29.03
1.80	6.06	29.18	1.78	6.05	29.20	1.76	6.05	29.23	1.74	6.05	29.25	1.72	6.04	29.27	1.70	6.04	29.30
1.99	6.04	29.34	1.96	6.03	29.36	1.94	6.03	29.39	1.91	6.03	29.41	1.89	6.03	29.43	1.86	6.02	29.46
2.19	6.03	29.45	2.16	6.02	29.47	2.12	6.02	29.49	2.09	6.02	29.52	2.06	6.02	29.54	2.03	6.02	29.57
2.39	6.02	29.52	2.36	6.02	29.54	2.32	6.02	29.57	2.28	6.01	29.59	2.25	6.01	29.62	2.21	6.01	29.64
2.60	6.02	29.57	2.56	6.01	29.60	2.52	6.01	29.62	2.48	6.01	29.65	2.44	6.01	29.67	2.40	6.01	29.70
2.82	6.01	29.61	2.77	6.01	29.64	2.72	6.01	29.66	2.68	6.01	29.69	2.63	6.01	29.71	2.58	6.01	29.74
3.94	6.01	29.71	3.87	6.01	29.74	3.79	6.00	29.77	3.72	6.00	29.79	3.65	6.00	29.82	3.57	6.00	29.85
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1.37	11.35	21.92
1.44	8.93	26.03	1.43	8.89	26.12	1.41	8.85	26.20	1.40	8.82	26.28	1.39	8.79	26.35	1.38	8.76	26.43
1.53	8.45	27.28	1.51	8.43	27.34	1.50	8.41	27.40	1.49	8.39	27.46	1.47	8.38	27.51	1.46	8.36	27.56
1.63	8.26	27.92	1.62	8.25	27.97	1.60	8.24	28.02	1.58	8.23	28.07	1.57	8.22	28.12	1.55	8.21	28.17
1.75	8.17	28.32	1.73	8.16	28.37	1.71	8.15	28.41	1.69	8.15	28.46	1.67	8.14	28.51	1.65	8.13	28.55
1.87	8.12	28.58	1.85	8.12	28.63	1.82	8.11	28.68	1.80	8.10	28.72	1.78	8.09	28.77	1.76	8.09	28.81
2.12	8.07	28.92	2.09	8.07	28.97	2.07	8.06	29.01	2.04	8.05	29.06	2.01	8.05	29.10	1.98	8.05	29.15
2.40	8.05	29.12	2.36	8.04	29.17	2.32	8.04	29.21	2.28	8.03	29.26	2.25	8.03	29.30	2.21	8.03	29.35
2.68	8.04	29.25	2.63	8.03	29.29	2.59	8.03	29.34	2.54	8.02	29.39	2.50	8.02	29.43	2.46	8.02	29.48
2.97	8.03	29.33	2.91	8.02	29.38	2.86	8.02	29.43	2.81	8.02	29.48	2.76	8.01	29.52	2.71	8.01	29.57
3.26	8.02	29.40	3.20	8.02	29.44	3.14	8.02	29.49	3.09	8.01	29.54	3.03	8.01	29.59	2.97	8.01	29.63
3.56	8.02	29.44	3.50	8.02	29.49	3.43	8.01	29.54	3.36	8.01	29.59	3.30	8.01	29.63	3.23	8.01	29.68
5.11	8.01	29.55	5.01	8.01	29.60	4.91	8.01	29.65	4.81	8.01	29.70	4.70	8.00	29.75	4.60	8.00	29.80
1.57	11.25	24.82	1.55	11.17	24.99	1.54	11.10	25.15	1.52	11.04	25.30	1.50	10.98	25.44	1.48	10.93	25.58
1.68	10.57	26.57	1.66	10.53	26.68	1.64	10.50	26.78	1.63	10.47	26.88	1.61	10.44	26.97	1.59	10.42	27.07
1.82	10.33	27.40	1.80	10.31	27.49	1.78	10.29	27.58	1.75	10.27	27.66	1.73	10.25	27.75	1.71	10.23	27.83
1.97	10.22	27.89	1.95	10.20	27.98	1.92	10.18	28.06	1.89	10.17	28.14	1.87	10.16	28.22	1.84	10.14	28.30
2.13	10.16	28.22	2.10	10.14	28.30	2.07	10.13	28.38	2.04	10.12	28.46	2.01	10.11	28.54	1.98	10.09	28.61
2.47	10.09	28.63	2.43	10.08	28.71	2.39	10.07	28.78	2.35	10.06	28.86	2.31	10.06	28.94	2.27	10.05	29.01
2.82	10.06	28.86	2.77	10.06	28.94	2.73	10.05	29.01	2.68	10.04	29.09	2.63	10.03	29.17	2.58	10.03	29.24
3.19	10.05	29.00	3.13	10.04	29.08	3.07	10.03	29.16	3.02	10.03	29.24	2.96	10.02	29.31	2.90	10.02	29.39
3.56	10.04	29.10	3.49	10.03	29.18	3.43	10.03	29.26	3.36	10.02	29.34	3.30	10.02	29.41	3.23	10.01	29.49
3.94	10.03	29.17	3.87	10.03	29.25	3.79	10.02	29.33	3.72	10.02	29.41	3.64	10.01	29.48	3.57	10.01	29.56
4.33	10.03	29.22	4.24	10.02	29.30	4.16	10.02	29.38	4.07	10.01	29.46	3.99	10.01	29.53	3.91	10.01	29.61
6.30	10.02	29.34	6.17	10.02	29.42	6.04	10.01	29.50	5.91	10.01	29.58	5.78	10.01	29.66	5.65	10.00	29.74
1.72	13.74	23.25	1.69	13.57	23.62	1.67	13.43	23.93	1.64	13.30	24.21	1.62	13.20	24.46	1.60	13.11	24.69
1.85	12.71	25.77	1.82	12.66	25.95	1.80	12.60	26.12	1.77	12.56	26.28	1.75	12.51	26.43	1.72	12.47	26.58
2.02	12.41	26.82	1.99	12.37	26.96	1.96	12.34	27.10	1.93	12.31	27.24	1.90	12.28	27.37	1.88	12.25	27.50
2.21	12.27	27.42	2.18	12.24	27.55	2.14	12.22	27.68	2.11	12.20	27.81	2.08	12.17	27.93	2.04	12.15	28.05
2.41	12.20	27.81	2.37	12.17	27.94	2.33	12.15	28.06	2.29	12.13	28.19	2.25	12.12	28.30	2.22	12.10	28.42
2.83	12.12	28.28	2.78	12.10	28.40	2.73	12.09	28.52	2.68	12.08	28.64	2.63	12.06	28.76	2.58	12.05	28.87
3.26	12.09	28.54	3.20	12.07	28.66	3.14	12.06	28.78	3.08	12.05	28.90	3.02	12.04	29.02	2.97	12.03	29.13
3.71	12.07	28.70	3.64	12.06	28.83	3.57	12.05	28.95	3.50	12.04	29.06	3.43	12.03	29.18	3.36	12.02	29.29
4.17	12.06	28.81	4.09	12.05	28.93	4.01	12.04	29.05	3.93	12.03	29.17	3.84	12.02	29.29	3.76	12.01	29.40
4.64	12.05	28.89	4.54	12.04	29.01	4.45	12.03	29.13	4.36	12.02	29.25	4.26	12.02	29.36	4.17	12.01	29.47
5.11	12.05	28.94	5.00	12.04	29.06	4.90	12.03	29.18	4.79	12.02	29.30	4.69	12.01	29.42	4.59	12.01	29.53
7.49	12.04	29.07	7.33	12.03	29.19	7.17	12.02	29.31	7.01	12.01	29.43	6.86	12.01	29.55	6.70	12.00	29.66
1.93	17.13	20.04	1.86	16.31	21.55	1.81	15.94	22.31	1.77	15.68	22.87	1.74	15.48	23.33	1.71	15.32	23.72
2.02	14.92	24.80	1.99	14.82	25.10	1.96	14.73	25.37	1.92	14.65	25.63	1.89	14.59	25.86	1.86	14.53	26.09
2.23	14.51	26.13	2.19	14.46	26.36	2.15	14.40	26.58	2.12	14.36	26.79	2.08	14.32	26.98	2.05	14.28	27.17
2.46	14.34	26.86	2.41	14.30	27.07	2.37	14.26	27.26	2.33	14.23	27.45	2.29	14.19	27.63	2.25	14.17	27.81
2.70	14.25	27.32	2.65	14.21	27.52	2.60	14.18	27.70	2.55	14.16	27.88	2.50	14.13	28.06	2.46	14.11	28.22
3.20	14.16	27.86	3.13	14.13	28.04	3.07	14.11	28.22	3.01	14.09	28.39	2.96	14.07	28.56	2.90	14.06	28.72
3.72	14.12	28.15	3.64	14.10	28.33	3.57	14.08	28.51	3.50	14.06	28.68	3.43	14.05	28.84	3.36	14.03	29.01
4.25	14.10	28.33	4.16	14.08	28.51	4.08	14.06	28.69	3.99	14.05	28.86	3.91	14.03	29.02	3.83	14.02	29.18
4.79	14.08	28.45	4.69	14.07	28.63	4.59	14.05	28.80	4.49	14.04	28.97	4.40	14.03	29.13	4.30	14.02	29.29
5.34	14.08	28.53	5.23	14.06	28.71	5.11	14.04	28.88	5.00	14.03	29.05	4.89	14.02	29.21	4.79	14.01	29.38
5.89	14.07	28.59	5.76	14.05	28.77	5.64	14.04	28.94	5.52	14.03	29.11	5.40	14.02	29.27	5.28	14.01	29.43
8.69	14.06	28.73	8.50	14.04	28.91	8.31	14.03	29.08	8.12	14.02	29.25	7.94	14.01	29.41	7.75	14.01	29.57
–	–	–	–	–	–	–	–	–	1.93	18.36	20.88	1.88	17.89	21.88	1.83	17.59	22.59
2.21	17.23	23.53	2.17	17.04	24.05	2.12	16.90	24.49	2.08	16.78	24.89	2.04	16.67	25.24	2.01	16.59	25.57
2.45	16.66	25.29	2.40	16.57	25.65	2.35	16.49	25.98	2.31	16.42	26.28	2.27	16.36	26.56	2.23	16.30	26.83

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(n) $\epsilon_p = 30°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$ θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	$\gamma_e = \gamma_\infty = 1.40$ θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	29.83	33.65	7.0	31.37	26.70	3.15	17.37	23.14	12.13	.3266	3.18	32.96	23.28	2.77	16.52	25.85	8.76	.2756	4.17
			8.0	31.83	25.53	3.45	17.01	24.16	14.62	.3139	3.41	33.08	22.42	3.05	16.39	26.42	10.69	.2562	4.49
			10.0	32.21	24.30	4.11	16.71	25.12	20.93	.2952	3.70	33.19	21.39	3.65	16.26	27.06	15.36	.2293	4.98
			12.0	32.36	23.65	4.81	16.58	25.59	28.75	.2833	3.88	33.25	20.82	4.27	16.20	27.41	21.06	.2125	5.32
			14.0	32.45	23.27	5.53	16.51	25.86	38.01	.2754	4.00	33.28	20.47	4.90	16.17	27.61	27.81	.2014	5.56
			16.0	32.50	23.02	6.26	16.47	26.02	48.72	.2701	4.09	33.29	20.24	5.54	16.15	27.75	35.59	.1939	5.73
			18.0	32.53	22.85	6.99	16.45	26.14	60.86	.2663	4.15	33.31	20.08	6.18	16.14	27.84	44.41	.1885	5.86
			20.0	32.56	22.73	7.73	16.43	26.22	74.44	.2635	4.19	33.32	19.97	6.83	16.13	27.90	54.26	.1845	5.95
			30.0	32.61	22.44	11.45	16.39	26.41	169.8	.2566	4.30	33.33	19.70	10.11	16.11	28.06	119.1	.1748	6.20
18	33.02	34.55	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	33.15	27.21	2.74	19.09	23.54	8.61	.2774	3.49
			7.0	-	-	-	-	-	-	-	-	33.55	25.77	3.04	18.71	24.81	10.64	.2566	3.84
			8.0	-	-	-	-	-	-	-	-	33.74	24.89	3.37	18.53	25.53	13.06	.2402	4.12
			10.0	32.03	27.93	4.68	19.34	22.81	27.20	.2851	3.21	33.91	23.86	4.05	18.36	26.30	18.92	.2176	4.53
			12.0	32.42	27.09	5.46	19.05	23.64	37.11	.2760	3.37	33.99	23.30	4.75	18.29	26.70	26.12	.2036	4.80
			14.0	32.60	26.63	6.28	18.92	24.07	49.01	.2700	3.47	34.03	22.96	5.46	18.25	26.94	34.64	.1946	4.98
			16.0	32.70	26.34	7.10	18.85	24.33	62.81	.2658	3.54	34.06	22.74	6.19	18.23	27.09	44.47	.1884	5.11
			18.0	32.77	26.15	7.93	18.80	24.49	78.48	.2628	3.59	34.07	22.59	6.91	18.21	27.19	55.61	.1841	5.21
			20.0	32.82	26.01	8.77	18.76	24.61	96.00	.2607	3.62	34.08	22.48	7.65	18.20	27.27	68.07	.1809	5.28
			30.0	32.92	25.70	13.01	18.69	24.88	211.4	.2554	3.71	34.11	22.22	11.35	18.18	27.44	150.0	.1731	5.46
20	36.05	35.53	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	33.15	30.38	3.03	21.80	21.13	10.57	.2572	3.17
			7.0	-	-	-	-	-	-	-	-	34.04	28.50	3.34	21.04	23.33	12.85	.2413	3.52
			8.0	-	-	-	-	-	-	-	-	34.35	27.52	3.70	20.76	24.32	15.78	.2276	3.77
			10.0	-	-	-	-	-	-	-	-	34.62	26.45	4.45	20.52	25.30	22.98	.2087	4.11
			12.0	-	-	-	-	-	-	-	-	34.74	25.88	5.24	20.42	25.79	31.85	.1970	4.33
			14.0	-	-	-	-	-	-	-	-	34.80	25.54	6.04	20.37	26.07	42.35	.1895	4.48
			16.0	-	-	-	-	-	-	-	-	34.84	25.32	6.84	20.34	26.25	54.47	.1845	4.58
			18.0	-	-	-	-	-	-	-	-	34.86	25.17	7.66	20.31	26.37	68.22	.1809	4.65
			20.0	31.85	30.64	10.19	21.94	20.78	129.7	.2581	3.01	34.88	25.07	8.47	20.30	26.45	83.59	.1783	4.71
			30.0	32.42	29.86	14.94	21.55	21.79	278.8	.2543	3.12	34.92	24.81	12.59	20.27	26.65	184.7	.1719	4.85
22	38.94	36.59	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	33.88	31.99	3.71	23.91	20.39	15.88	.2273	3.16
			8.0	-	-	-	-	-	-	-	-	34.75	30.49	4.06	23.20	22.43	19.06	.2172	3.42
			10.0	-	-	-	-	-	-	-	-	35.25	29.23	4.88	22.79	23.89	27.65	.2016	3.72
			12.0	-	-	-	-	-	-	-	-	35.44	28.61	5.75	22.63	24.54	38.36	.1919	3.90
			14.0	-	-	-	-	-	-	-	-	35.53	28.25	6.63	22.55	24.90	51.07	.1856	4.03
			16.0	-	-	-	-	-	-	-	-	35.59	28.02	7.52	22.51	25.12	65.76	.1814	4.11
			18.0	-	-	-	-	-	-	-	-	35.63	27.87	8.41	22.48	25.27	82.42	.1784	4.17
			20.0	-	-	-	-	-	-	-	-	35.66	27.76	9.31	22.46	25.38	101.0	.1763	4.21
			30.0	-	-	-	-	-	-	-	-	35.72	27.50	13.85	22.41	25.62	223.6	.1710	4.32
24	41.68	37.71	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	35.48	32.50	5.37	25.40	21.43	33.51	.1955	3.32
			12.0	-	-	-	-	-	-	-	-	35.92	31.65	6.30	25.05	22.60	46.09	.1877	3.50
			14.0	-	-	-	-	-	-	-	-	36.11	31.21	7.25	24.90	23.16	61.23	.1825	3.60
			16.0	-	-	-	-	-	-	-	-	36.22	30.94	8.23	24.82	23.49	78.79	.1790	3.68
			18.0	-	-	-	-	-	-	-	-	36.28	30.76	9.21	24.77	23.70	98.73	.1765	3.73
			20.0	-	-	-	-	-	-	-	-	36.33	30.64	10.19	24.73	23.85	121.0	.1747	3.76
			30.0	-	-	-	-	-	-	-	-	36.43	30.35	15.16	24.65	24.18	267.9	.1703	3.85
26	44.29	38.89	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	36.01	34.78	9.13	27.78	19.85	97.00	.1767	3.20
			18.0	-	-	-	-	-	-	-	-	36.33	34.35	10.16	27.54	20.58	120.2	.1747	3.27
			20.0	-	-	-	-	-	-	-	-	36.49	34.11	11.22	27.42	20.97	146.6	.1733	3.31
			30.0	-	-	-	-	-	-	-	-	36.77	33.65	16.62	27.20	21.70	322.2	.1697	3.40
28	46.76	40.12	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	49.11	41.41	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	51.33	42.74	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(n) $\epsilon_p = 30°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
2.71	16.44	26.18	2.66	16.37	26.49	2.61	16.31	26.78	2.56	16.26	27.05	2.51	16.22	27.31	2.46	16.18	27.55
2.99	16.32	26.73	2.93	16.27	27.01	2.87	16.22	27.28	2.82	16.18	27.54	2.76	16.15	27.78	2.71	16.12	28.01
3.57	16.21	27.35	3.50	16.17	27.61	3.43	16.14	27.86	3.36	16.11	28.11	3.29	16.08	28.34	3.22	16.06	28.56
4.18	16.16	27.68	4.09	16.13	27.94	4.00	16.10	28.18	3.92	16.08	28.42	3.83	16.06	28.65	3.75	16.04	28.87
4.79	16.14	27.88	4.69	16.11	28.13	4.59	16.08	28.37	4.49	16.06	28.61	4.39	16.04	28.83	4.29	16.03	29.05
5.42	16.12	28.01	5.30	16.09	28.26	5.18	16.07	28.50	5.07	16.05	28.73	4.96	16.03	28.96	4.84	16.02	29.17
6.05	16.11	28.10	5.91	16.08	28.35	5.78	16.06	28.59	5.65	16.04	28.82	5.53	16.03	29.04	5.40	16.02	29.26
6.68	16.10	28.16	6.53	16.08	28.41	6.39	16.06	28.65	6.24	16.04	28.88	6.10	16.02	29.10	5.96	16.01	29.32
9.88	16.09	28.31	9.66	16.06	28.56	9.44	16.04	28.80	9.23	16.03	29.03	9.01	16.02	29.25	8.80	16.01	29.46
-	-	-	-	-	-	-	-	-	-	-	-	2.04	20.87	19.26	1.97	20.02	21.09
2.43	19.84	21.51	2.36	19.42	22.60	2.30	19.14	23.38	2.25	18.94	24.00	2.20	18.78	24.54	2.16	18.66	25.01
2.68	18.88	24.20	2.61	18.72	24.76	2.56	18.59	25.25	2.50	18.49	25.69	2.45	18.41	26.09	2.41	18.33	26.46
2.97	18.58	25.33	2.91	18.47	25.79	2.85	18.38	26.20	2.79	18.31	26.58	2.73	18.25	26.94	2.68	18.20	27.27
3.29	18.43	25.98	3.22	18.35	26.40	3.15	18.28	26.78	3.08	18.22	27.14	3.02	18.17	27.47	2.96	18.13	27.78
3.95	18.29	26.71	3.87	18.23	27.09	3.78	18.18	27.44	3.70	18.13	27.77	3.62	18.10	28.08	3.54	18.07	28.38
4.64	18.23	27.09	4.54	18.17	27.45	4.43	18.13	27.79	4.34	18.10	28.11	4.24	18.07	28.41	4.15	18.04	28.71
5.34	18.19	27.31	5.22	18.15	27.67	5.10	18.11	28.00	4.98	18.08	28.31	4.87	18.05	28.62	4.76	18.03	28.91
6.04	18.17	27.46	5.91	18.13	27.81	5.77	18.09	28.14	5.64	18.06	28.45	5.51	18.04	28.75	5.39	18.03	29.03
6.75	18.16	27.56	6.60	18.12	27.90	6.45	18.08	28.23	6.30	18.06	28.54	6.16	18.04	28.84	6.02	18.02	29.12
7.47	18.15	27.63	7.30	18.11	27.97	7.13	18.08	28.30	6.97	18.05	28.61	6.81	18.03	28.90	6.65	18.02	29.19
11.08	18.13	27.80	10.82	18.09	28.13	10.57	18.06	28.45	10.32	18.04	28.76	10.08	18.02	29.06	9.84	18.01	29.34
-	-	-	2.60	22.38	19.74	2.49	21.56	21.77	2.42	21.18	22.87	2.36	20.93	23.69	2.31	20.75	24.37
2.92	21.27	22.62	2.84	20.96	23.59	2.77	20.75	24.35	2.70	20.59	25.00	2.64	20.47	25.56	2.59	20.37	26.06
3.25	20.79	24.20	3.17	20.61	24.90	3.09	20.48	25.50	3.02	20.37	26.04	2.96	20.29	26.52	2.89	20.22	26.96
3.60	20.58	25.03	3.51	20.45	25.64	3.43	20.35	26.17	3.36	20.27	26.66	3.28	20.20	27.11	3.21	20.15	27.53
4.34	20.40	25.90	4.24	20.30	26.44	4.14	20.23	26.92	4.05	20.17	27.37	3.96	20.12	27.78	3.87	20.08	28.18
5.11	20.32	26.35	4.99	20.24	26.85	4.87	20.17	27.31	4.76	20.12	27.74	4.65	20.08	28.14	4.54	20.05	28.52
5.89	20.27	26.61	5.75	20.20	27.09	5.61	20.14	27.54	5.48	20.10	27.96	5.35	20.06	28.36	5.23	20.04	28.73
6.68	20.25	26.77	6.52	20.18	27.25	6.36	20.13	27.69	6.21	20.09	28.11	6.07	20.05	28.50	5.93	20.03	28.87
7.47	20.23	26.88	7.29	20.17	27.36	7.12	20.12	27.80	6.95	20.08	28.21	6.78	20.05	28.60	6.63	20.03	28.96
8.26	20.22	26.96	8.07	20.16	27.43	7.87	20.11	27.87	7.69	20.07	28.28	7.51	20.04	28.66	7.33	20.02	29.03
12.28	20.19	27.15	11.98	20.14	27.61	11.69	20.09	28.04	11.41	20.06	28.45	11.14	20.03	28.83	10.88	20.02	29.19
-	-	-	-	-	-	-	-	-	2.61	23.61	21.21	2.53	23.14	22.63	2.46	22.86	23.63
-	-	-	3.09	23.40	21.81	2.99	22.99	23.15	2.91	22.73	24.13	2.84	22.55	24.92	2.77	22.41	25.60
3.55	23.18	22.51	3.44	22.84	23.71	3.34	22.62	24.62	3.26	22.46	25.37	3.18	22.34	26.03	3.11	22.25	26.62
3.93	22.84	23.70	3.82	22.61	24.65	3.72	22.45	25.42	3.63	22.33	26.09	3.54	22.24	26.69	3.46	22.16	27.24
4.74	22.57	24.84	4.62	22.41	25.62	4.50	22.30	26.29	4.39	22.21	26.89	4.29	22.14	27.44	4.19	22.09	27.94
5.59	22.46	25.38	5.44	22.33	26.10	5.31	22.23	26.73	5.18	22.16	27.30	5.06	22.10	27.83	4.94	22.06	28.31
6.45	22.40	25.70	6.28	22.28	26.38	6.13	22.19	26.99	5.98	22.13	27.55	5.83	22.08	28.06	5.70	22.05	28.54
7.31	22.36	25.89	7.13	22.25	26.56	6.95	22.17	27.16	6.78	22.11	27.71	6.62	22.07	28.21	6.46	22.04	28.68
8.19	22.34	26.03	7.98	22.24	26.68	7.78	22.16	27.27	7.59	22.10	27.81	7.41	22.06	28.31	7.23	22.03	28.78
9.07	22.32	26.12	8.83	22.22	26.77	8.61	22.15	27.35	8.40	22.10	27.89	8.20	22.06	28.39	8.00	22.03	28.85
13.48	22.29	26.34	13.14	22.20	26.97	12.81	22.13	27.54	12.50	22.08	28.07	12.19	22.04	28.56	11.90	22.02	29.02
-	-	-	-	-	-	-	-	-	-	-	-	2.70	25.50	21.10	2.62	25.02	22.71
-	-	-	-	-	-	3.23	25.44	21.30	3.12	24.95	22.98	3.03	24.66	24.14	2.96	24.47	25.07
-	-	-	3.73	25.26	21.88	3.60	24.83	23.43	3.50	24.58	24.54	3.41	24.40	25.44	3.33	24.28	26.22
4.29	25.37	21.51	4.13	24.87	23.27	4.01	24.59	24.46	3.91	24.41	25.40	3.81	24.28	26.20	3.72	24.19	26.90
5.16	24.86	23.31	5.00	24.58	24.54	4.87	24.39	25.50	4.74	24.27	26.31	4.63	24.17	27.02	4.51	24.11	27.67
6.08	24.68	24.06	5.91	24.46	25.13	5.75	24.31	26.01	5.60	24.20	26.77	5.46	24.13	27.45	5.33	24.07	28.07
7.02	24.59	24.47	6.82	24.40	25.47	6.64	24.27	26.31	6.47	24.17	27.05	6.31	24.10	27.71	6.16	24.06	28.31
7.97	24.54	24.72	7.74	24.36	25.68	7.54	24.24	26.50	7.35	24.15	27.22	7.17	24.09	27.87	6.99	24.05	28.46
8.92	24.51	24.88	8.67	24.34	25.83	8.44	24.22	26.63	8.23	24.14	27.34	8.03	24.08	27.98	7.83	24.04	28.57
9.88	24.48	25.00	9.61	24.32	25.93	9.35	24.21	26.72	9.12	24.13	27.42	8.89	24.07	28.06	8.67	24.04	28.64
14.70	24.43	25.27	14.30	24.29	26.16	13.92	24.18	26.93	13.57	24.11	27.62	13.23	24.06	28.24	12.91	24.03	28.82
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.78	27.26	21.49
-	-	-	-	-	-	-	-	-	-	-	-	3.35	27.33	21.27	3.23	26.83	23.15
-	-	-	-	-	-	3.88	27.22	21.63	3.75	26.75	23.46	3.64	26.49	24.73	3.55	26.32	25.75
-	-	-	4.49	27.44	20.91	4.32	26.83	23.13	4.18	26.53	24.52	4.07	26.34	25.60	3.97	26.22	26.51
5.66	27.62	20.35	5.41	26.87	22.99	5.24	26.54	24.47	5.09	26.34	25.59	4.96	26.21	26.53	4.84	26.13	27.35
6.62	27.14	21.92	6.38	26.68	23.81	6.19	26.43	25.10	6.02	26.27	26.13	5.87	26.16	27.01	5.72	26.09	27.79
7.63	26.96	22.59	7.37	26.59	24.25	7.16	26.37	25.45	6.96	26.23	26.44	6.78	26.13	27.29	6.62	26.07	28.04
8.66	26.87	22.97	8.37	26.53	24.52	8.13	26.33	25.67	7.91	26.20	26.63	7.71	26.11	27.46	7.52	26.06	28.21
9.69	26.81	23.22	9.38	26.50	24.70	9.11	26.31	25.82	8.87	26.19	26.76	8.64	26.10	27.58	8.42	26.05	28.32
10.73	26.77	23.39	10.39	26.48	24.82	10.09	26.29	25.93	9.82	26.18	26.86	9.57	26.10	27.67	9.33	26.05	28.40
15.97	26.69	23.76	15.47	26.42	25.11	15.03	26.26	26.17	14.63	26.15	27.08	14.26	26.08	27.87	13.90	26.04	28.59
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.96	29.76	19.50
-	-	-	-	-	-	-	-	-	-	-	-	3.44	29.09	21.76	3.33	28.65	23.66
-	-	-	-	-	-	-	-	-	4.01	29.06	21.89	3.88	28.62	23.82	3.77	28.38	25.19
-	-	-	-	-	-	4.65	29.32	20.94	4.47	28.72	23.35	4.34	28.43	24.87	4.22	28.25	26.05
-	-	-	5.89	29.62	19.91	5.62	28.79	23.03	5.44	28.46	24.69	5.29	28.27	25.94	5.15	28.15	26.98
-	-	-	6.90	29.12	21.67	6.64	28.61	23.86	6.44	28.36	25.32	6.27	28.20	26.47	6.11	28.11	27.45
-	-	-	7.95	28.93	22.39	7.68	28.53	24.31	7.45	28.30	25.68	7.25	28.17	26.78	7.07	28.08	27.73
-	-	-	9.03	28.84	22.80	8.72	28.48	24.59	8.47	28.27	25.90	8.25	28.15	26.98	8.04	28.07	27.91
10.67	29.78	19.41	10.11	28.78	23.06	9.78	28.44	24.78	9.50	28.25	26.06	9.24	28.14	27.11	9.01	28.06	28.03
11.76	29.57	20.08	11.20	28.74	23.24	10.83	28.42	24.91	10.52	28.24	26.16	10.24	28.13	27.21	9.98	28.06	28.12
17.40	29.28	21.06	16.67	28.66	23.64	16.14	28.38	25.20	15.69	28.21	26.41	15.27	28.11	27.43	14.88	28.05	28.32
-	-	-	-	-	-	-	-	-	-	-	-	3.68	31.72	19.18	3.52	30.80	22.66
-	-	-	-	-	-	-	-	-	4.35	32.14	17.90	4.11	30.82	22.60	3.99	30.45	24.51
-	-	-	-	-	-	-	-	-	4.77	31.05	21.59	4.60	30.55	23.93	4.47	30.30	25.50
-	-	-	-	-	-	6.05	31.34	20.49	5.80	30.64	23.47	5.62	30.35	25.21	5.47	30.18	26.54
-	-	-	-	-	-	7.12	30.95	21.99	6.86	30.49	24.27	6.66	30.26	25.82	6.49	30.13	27.07
-	-	-	-	-	-	8.22	30.80	22.67	7.94	30.42	24.71	7.72	30.22	26.18	7.51	30.10	27.37
-	-	-	-	-	-	9.34	30.72	23.06	9.03	30.38	24.98	8.78	30.20	26.40	8.55	30.09	27.56
-	-	-	10.99	31.58	19.63	10.46	30.67	23.32	10.13	30.35	25.16	9.84	30.18	26.55	9.58	30.08	27.70
-	-	-	12.14	31.42	20.18	11.59	30.63	23.49	11.22	30.33	25.29	10.91	30.17	26.65	10.62	30.07	27.79
-	-	-	18.00	31.17	21.10	17.27	30.56	23.89	16.74	30.29	25.58	16.28	30.14	26.90	15.85	30.06	28.01
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.72	33.05	21.25
-	-	-	-	-	-	-	-	-	-	-	-	4.37	33.19	20.70	4.20	32.56	23.66
-	-	-	-	-	-	-	-	-	-	-	-	4.87	32.75	22.65	4.72	32.37	24.83
-	-	-	-	-	-	-	-	-	6.17	32.97	21.62	5.95	32.45	24.27	5.78	32.22	26.02
-	-	-	-	-	-	-	-	-	7.30	32.72	22.80	7.06	32.35	25.01	6.86	32.16	26.60

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(n) $\epsilon_p = 30°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
32 51.33 42.74			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34 53.65 44.11			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36 55.46 45.52			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38 57.18 46.97			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40 59.21 48.44			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42 60.96 49.94			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(n) $\epsilon_p = 30°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
-	-	-	-	-	-	8.88	33.63	19.07	8.44	32.60	23.39	8.18	32.29	25.42	7.95	32.13	26.94
-	-	-	-	-	-	10.03	33.30	20.26	9.60	32.54	23.74	9.30	32.26	25.68	9.05	32.11	27.15
-	-	-	-	-	-	11.21	33.16	20.81	10.76	32.50	23.98	10.43	32.24	25.85	10.15	32.10	27.30
-	-	-	-	-	-	12.41	33.08	21.15	11.93	32.48	24.14	11.57	32.23	25.97	11.25	32.09	27.40
-	-	-	-	-	-	18.47	32.92	21.83	17.79	32.42	24.50	17.26	32.20	26.25	16.80	32.08	27.64
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.95	35.69	18.44
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.42	34.71	22.53
-	-	-	-	-	-	-	-	-	-	-	-	5.16	35.12	20.62	4.97	34.46	23.99
-	-	-	-	-	-	-	-	-	-	-	-	6.28	34.63	23.01	6.09	34.28	25.38
-	-	-	-	-	-	-	-	-	7.77	35.22	20.18	7.45	34.47	23.95	7.23	34.20	26.05
-	-	-	-	-	-	-	-	-	8.97	34.96	21.31	8.64	34.39	24.46	8.38	34.16	26.43
-	-	-	-	-	-	-	-	-	10.19	34.84	21.88	9.83	34.35	24.77	9.56	34.14	26.66
-	-	-	-	-	-	-	-	-	11.42	34.77	22.23	11.02	34.32	24.98	10.71	34.13	26.83
-	-	-	-	-	-	-	-	-	12.65	34.73	22.47	12.22	34.31	25.12	11.87	34.12	26.94
-	-	-	-	-	-	-	-	-	18.86	34.63	22.99	18.24	34.27	25.45	17.73	34.10	27.20
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.65	37.00	20.83
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.21	36.61	22.87
-	-	-	-	-	-	-	-	-	-	-	-	6.63	36.95	21.05	6.39	36.35	24.58
-	-	-	-	-	-	-	-	-	-	-	-	7.85	36.68	22.47	7.59	36.26	25.36
-	-	-	-	-	-	-	-	-	-	-	-	9.10	36.56	23.15	8.81	36.21	25.80
-	-	-	-	-	-	-	-	-	-	-	-	10.35	36.49	23.56	10.03	36.18	26.07
-	-	-	-	-	-	-	-	-	-	-	-	11.61	36.46	23.82	11.25	36.17	26.25
-	-	-	-	-	-	-	-	-	13.51	37.46	18.85	12.87	36.43	24.00	12.48	36.16	26.38
-	-	-	-	-	-	-	-	-	20.03	37.11	20.30	19.21	36.37	24.41	18.64	36.13	26.68
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.47	38.85	21.23
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.69	38.46	23.55
-	-	-	-	-	-	-	-	-	-	-	-	8.29	39.15	19.80	7.95	38.34	24.50
-	-	-	-	-	-	-	-	-	-	-	-	9.58	38.87	21.10	9.23	38.28	25.02
-	-	-	-	-	-	-	-	-	-	-	-	10.89	38.75	21.75	10.51	38.24	25.34
-	-	-	-	-	-	-	-	-	-	-	-	12.21	38.68	22.14	11.79	38.22	25.55
-	-	-	-	-	-	-	-	-	-	-	-	13.53	38.64	22.41	13.08	38.21	25.70
-	-	-	-	-	-	-	-	-	-	-	-	20.19	38.55	22.98	19.54	38.17	26.04
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.00	40.65	22.09
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.31	40.46	23.36
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.64	40.37	24.01
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.98	40.32	24.41
-	-	-	-	-	-	-	-	-	-	-	-	12.91	41.37	18.42	12.32	40.30	24.66
-	-	-	-	-	-	-	-	-	-	-	-	14.26	41.17	19.31	13.67	40.28	24.84
-	-	-	-	-	-	-	-	-	-	-	-	21.22	40.91	20.58	20.42	40.23	25.25
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.32	43.06	19.47
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.67	42.66	21.69
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.05	42.52	22.62
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.45	42.45	23.14
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.84	42.41	23.48
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.25	42.38	23.70
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.28	42.32	24.21

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(o) $\epsilon_p = 30°$; $\Gamma = 5°$; $\epsilon_r = 2.90°$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	3.99	30.01	3.0	29.85	21.51	1.10	2.58	28.31	1.26	.8700	2.82	2 .90	21.27	1.09	2.56	28.34	1.22	.8700	2.87
			4.0	29.96	16.15	1.11	2.23	28.95	1.30	.8560	3.76	2 .98	15.97	1.10	2.22	28.97	1.25	.8550	3.84
			5.0	29.98	13.11	1.13	2.12	29.21	1.36	.8335	4.66	3 .00	12.94	1.12	2.12	29.23	1.30	.8318	4.78
			6.0	29.99	11.13	1.16	2.08	29.36	1.43	.8098	5.55	3 .00	10.96	1.14	2.07	29.38	1.35	.8073	5.71
			7.0	30.00	9.73	1.18	2.05	29.46	1.50	.7862	6.41	3 .00	9.56	1.16	2.05	29.47	1.41	.7829	6.62
			8.0	30.00	8.69	1.21	2.04	29.53	1.58	.7633	7.25	3 .01	8.53	1.19	2.03	29.54	1.47	.7595	7.53
			10.0	30.00	7.26	1.26	2.02	29.63	1.75	.7200	8.88	3 .01	7.09	1.23	2.02	29.64	1.61	.7137	9.29
			12.0	30.00	6.32	1.32	2.01	29.69	1.93	.6804	10.44	3 .01	6.14	1.28	2.01	29.70	1.76	.6717	11.01
			14.0	30.00	5.66	1.38	2.00	29.73	2.13	.6443	11.91	3 .01	5.48	1.34	2.00	29.74	1.92	.6331	12.67
			16.0	30.00	5.17	1.44	2.00	29.76	2.35	.6116	13.32	3 .01	4.99	1.39	2.00	29.77	2.09	.5977	14.28
			18.0	30.00	4.79	1.50	2.00	29.78	2.58	.5820	14.66	3 .01	4.61	1.45	2.00	29.79	2.27	.5653	15.85
			20.0	30.00	4.50	1.57	2.00	29.80	2.83	.5552	15.92	3 .01	4.31	1.50	2.00	29.81	2.47	.5357	17.36
			30.0	30.00	3.66	1.92	1.99	29.85	4.34	.4549	21.31	3 .01	3.45	1.81	1.99	29.86	3.64	.4220	24.16
4	7.98	30.02	3.0	29.18	24.05	1.22	5.50	25.98	1.62	.7520	2.62	2 .49	23.38	1.19	5.32	26.26	1.49	.7545	2.73
			4.0	29.81	18.02	1.24	4.48	27.72	1.66	.7401	3.52	2 .90	17.59	1.21	4.45	27.80	1.54	.7367	3.68
			5.0	29.90	14.87	1.28	4.25	28.29	1.81	.7061	4.35	2 .96	14.48	1.25	4.23	28.36	1.66	.7002	4.57
			6.0	29.93	12.86	1.34	4.15	28.61	1.98	.6709	5.13	2 .98	12.48	1.30	4.14	28.67	1.79	.6626	5.43
			7.0	29.95	11.47	1.39	4.10	28.81	2.17	.6375	5.88	2 .99	11.09	1.35	4.09	28.87	1.95	.6265	6.27
			8.0	29.96	10.45	1.45	4.07	28.95	2.38	.6065	6.58	2 .99	10.07	1.40	4.06	29.01	2.11	.5928	7.07
			10.0	29.97	9.07	1.58	4.04	29.14	2.86	.5521	7.89	3 .00	8.68	1.51	4.03	29.19	2.49	.5329	8.61
			12.0	29.97	8.19	1.71	4.02	29.25	3.41	.5070	9.06	3 .00	7.78	1.63	4.01	29.31	2.91	.4822	10.05
			14.0	29.97	7.59	1.85	4.01	29.33	4.03	.4698	10.10	3 .00	7.17	1.75	4.00	29.38	3.40	.4396	11.39
			16.0	29.98	7.16	2.00	4.00	29.38	4.73	.4391	11.03	3 .00	6.73	1.87	4.00	29.44	3.93	.4039	12.62
			18.0	29.98	6.84	2.14	4.00	29.42	5.50	.4138	11.86	3 .00	6.40	2.01	4.00	29.48	4.52	.3739	13.77
			20.0	29.98	6.60	2.30	4.00	29.46	6.36	.3927	12.59	3 .00	6.14	2.14	3.99	29.51	5.18	.3486	14.81
			30.0	29.98	5.95	3.11	3.99	29.54	11.86	.3283	15.13	3 .00	5.46	2.86	3.99	29.60	9.34	.2689	18.85
6	11.97	30.15	3.0	-	-	-	-	-	-	-	-	2 .20	26.52	1.34	9.04	22.80	1.93	.6310	2.55
			4.0	29.62	20.14	1.38	6.81	26.33	2.12	.6460	3.30	29.85	19.38	1.33	6.70	26.58	1.89	.6398	3.52
			5.0	29.86	16.83	1.45	6.40	27.31	2.37	.6085	4.05	30.00	16.15	1.39	6.34	27.49	2.09	.5973	4.36
			6.0	29.94	14.80	1.53	6.24	27.82	2.69	.5699	4.74	30.05	14.15	1.47	6.20	27.97	2.34	.5541	5.16
			7.0	29.98	13.43	1.63	6.16	28.13	3.05	.5345	5.37	30.07	12.78	1.55	6.12	28.27	2.63	.5144	5.91
			8.0	30.00	12.44	1.72	6.11	28.34	3.47	.5031	5.95	30.09	11.79	1.63	6.08	28.48	2.95	.4788	6.62
			10.0	30.03	11.14	1.93	6.06	28.61	4.42	.4516	6.97	30.10	10.47	1.82	6.04	28.75	3.68	.4192	7.94
			12.0	30.04	10.34	2.15	6.03	28.77	5.55	.4125	7.83	30.10	9.64	2.01	6.02	28.91	4.55	.3729	9.10
			14.0	30.04	9.80	2.38	6.02	28.88	6.86	.3827	8.53	30.11	9.09	2.21	6.01	29.02	5.54	.3369	10.13
			16.0	30.05	9.43	2.62	6.01	28.95	8.35	.3598	9.12	30.11	8.71	2.42	6.00	29.09	6.68	.3088	11.03
			18.0	30.05	9.17	2.87	6.01	29.00	10.03	.3420	9.61	30.11	8.42	2.64	5.99	29.14	7.95	.2865	11.81
			20.0	30.05	8.97	3.12	6.00	29.04	11.90	.3280	10.01	30.11	8.21	2.86	5.99	29.18	9.36	.2688	12.49
			30.0	30.06	8.46	4.41	6.00	29.14	24.11	.2894	11.24	30.11	7.67	4.01	5.99	29.29	18.55	.2186	14.77
8	15.91	30.39	4.0	29.26	22.62	1.54	9.32	24.57	2.71	.5673	3.06	29.81	21.35	1.46	9.01	25.21	2.31	.5597	3.36
			5.0	29.84	19.01	1.63	8.60	26.19	3.07	.5334	3.76	30.12	17.98	1.54	8.46	26.57	2.61	.5166	4.15
			6.0	30.01	16.94	1.75	8.35	26.92	3.57	.4960	4.36	30.21	15.96	1.65	8.26	27.24	3.01	.4727	4.88
			7.0	30.08	15.59	1.88	8.23	27.36	4.17	.4627	4.89	30.26	14.62	1.77	8.16	27.65	3.47	.4337	5.55
			8.0	30.12	14.63	2.02	8.16	27.65	4.86	.4343	5.36	30.28	13.66	1.89	8.11	27.93	4.00	.4001	6.17
			10.0	30.17	13.41	2.32	8.10	28.00	6.48	.3902	6.14	30.30	12.42	2.15	8.05	28.27	5.23	.3468	7.27
			12.0	30.19	12.68	2.63	8.06	28.20	8.43	.3589	6.75	30.31	11.67	2.43	8.03	28.48	6.70	.3082	8.19
			14.0	30.20	12.21	2.96	8.04	28.33	10.71	.3364	7.23	30.32	11.18	2.71	8.01	28.61	8.42	.2799	8.96
			16.0	30.21	11.88	3.29	8.03	28.42	13.33	.3199	7.60	30.32	10.84	3.01	8.00	28.70	10.39	.2587	9.59
			18.0	30.21	11.66	3.64	8.02	28.48	16.29	.3076	7.89	30.33	10.60	3.31	8.00	28.76	12.62	.2427	10.12
			20.0	30.21	11.49	3.98	8.02	28.52	19.59	.2982	8.12	30.33	10.42	3.62	7.99	28.80	15.10	.2304	10.56
			30.0	30.22	11.07	5.76	8.01	28.63	41.27	.2735	8.78	30.33	9.97	5.20	7.99	28.92	31.34	.1975	11.88
10	19.77	30.75	4.0	27.76	26.45	1.78	12.84	21.11	3.72	.4868	2.74	29.68	23.59	1.60	11.47	23.53	2.82	.4918	3.18
			5.0	29.75	21.47	1.83	10.90	24.80	3.96	.4745	3.46	30.29	19.95	1.71	10.62	25.56	3.23	.4529	3.94
			6.0	30.08	19.30	1.98	10.52	25.86	4.67	.4413	3.99	30.46	17.92	1.85	10.34	26.45	3.81	.4113	4.60
			7.0	30.22	17.94	2.16	10.34	26.44	5.57	.4120	4.44	30.53	16.59	2.00	10.21	26.98	4.50	.3752	5.20
			8.0	30.29	17.02	2.34	10.25	26.82	6.60	.3876	4.81	30.57	15.67	2.16	10.14	27.33	5.28	.3451	5.73
			10.0	30.37	15.85	2.73	10.16	27.26	9.08	.3513	5.41	30.61	14.50	2.50	10.07	27.75	7.15	.2995	6.64
			12.0	30.41	15.18	3.14	10.11	27.51	12.10	.3268	5.85	30.62	13.81	2.86	10.04	27.99	9.41	.2682	7.35
			14.0	30.43	14.75	3.56	10.09	27.66	15.64	.3099	6.17	30.63	13.37	3.24	10.02	28.14	12.06	.2462	7.92
			16.0	30.44	14.46	4.00	10.07	27.76	19.73	.2978	6.41	30.64	13.07	3.62	10.01	28.24	15.11	.2303	8.37
			18.0	30.45	14.26	4.43	10.06	27.83	24.35	.2890	6.59	30.65	12.86	4.01	10.01	28.31	18.56	.2186	8.72
			20.0	30.45	14.12	4.88	10.05	27.88	29.51	.2824	6.74	30.65	12.71	4.40	10.00	28.36	22.42	.2097	9.01
			30.0	30.47	13.76	7.14	10.04	28.01	63.44	.2656	7.11	30.65	12.33	6.41	9.99	28.49	47.72	.1870	9.82
12	23.55	31.23	4.0	-	-	-	-	-	-	-	-	29.00	26.57	1.79	14.51	20.78	3.57	.4271	2.96
			5.0	29.34	24.47	2.07	13.51	22.73	5.11	.4256	3.14	30.48	22.10	1.88	12.83	24.37	3.96	.4021	3.72
			6.0	30.09	21.95	2.24	12.80	24.47	6.04	.3999	3.63	30.76	20.01	2.05	12.45	25.56	4.75	.3644	4.32
			7.0	30.35	20.53	2.45	12.53	25.28	7.29	.3753	4.00	30.88	18.70	2.24	12.28	26.22	5.71	.3322	4.85
			8.0	30.48	19.59	2.68	12.39	25.77	8.75	.3550	4.31	30.94	17.80	2.45	12.19	26.64	6.81	.3059	5.30
			10.0	30.61	18.46	3.17	12.26	26.33	12.29	.3256	4.77	31.00	16.69	2.87	12.11	27.14	9.46	.2676	6.04
			12.0	30.67	17.82	3.67	12.19	26.63	16.62	.3065	5.09	31.03	16.05	3.32	12.06	27.42	12.68	.2423	6.59
			14.0	30.70	17.42	4.19	12.16	26.82	21.73	.2936	5.31	31.04	15.65	3.78	12.04	27.59	16.48	.2251	7.01
			16.0	30.72	17.16	4.72	12.14	26.93	27.63	.2845	5.47	31.05	15.38	4.24	12.03	27.70	20.85	.2129	7.33
			18.0	30.74	16.98	5.26	12.13	27.02	34.31	.2781	5.59	31.06	15.19	4.72	12.02	27.78	25.80	.2041	7.58
			20.0	30.75	16.85	5.80	12.12	27.08	41.77	.2732	5.69	31.07	15.06	5.20	12.02	27.84	31.33	.1975	7.77
			30.0	30.77	16.53	8.53	12.09	27.22	90.84	.2612	5.92	31.08	14.73	7.63	12.00	27.97	67.68	.1810	8.30
14	27.21	31.81	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	31.61	24.50	2.07	15.17	22.84	4.85	.3605	3.49
			6.0	29.73	25.15	2.55	15.39	22.30	7.88	.3662	3.24	31.10	22.25	2.27	14.61	24.49	5.86	.3281	4.04
			7.0	30.34	23.44	2.78	14.87	23.66	9.45	.3475	3.58	31.29	20.93	2.50	14.38	25.32	7.13	.3000	4.50
			8.0	30.59	22.43	3.05	14.64	24.37	11.41	.3313	3.84	31.38	20.05	2.74	14.27	25.84	8.61	.2775	4.89
			10.0	30.83	21.27	3.63	14.44	25.12	16.21	.3079	4.20	31.47	18.98	3.25	14.16	26.43	12.18	.2454	5.49
			12.0	30.93	20.63	4.23	14.34	25.50	22.12	.2928	4.44	31.51	18.38	3.78	14.10	26.75	16.53	.2249	5.92
			14.0	30.99	20.25	4.85	14.29	25.72	29.12	.2828	4.60	31.54	18.00	4.33	14.08	26.94	21.68	.2112	6.24
			16.0	31.02	20.00	5.47	14.26	25.87	37.19	.2760	4.72	31.55	17.76	4.88	14.06	27.07	27.61	.2017	6.47
			18.0	31.04	19.82	6.10	14.24	25.97	46.35	.2710	4.80	31.56	17.58	5.44	14.05	27.16	34.33	.1949	6.65
			20.0	31.06	19.70	6.74	14.23	26.04	56.58	.2674	4.86	31.57	17.46	6.00	14.04	27.22	41.84	.1898	6.78
			30.0	31.10	19.40	9.96	14.20	26.20	123.9	.2585	5.02	31.58	17.16	8.85	14.03	27.37	91.23	.1773	7.14
16	30.74	32.49	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	31.32	27.49	2.31	17.95	20.34	6.05	.3231	3.22
			6.0	-	-	-	-	-	-	-	-	31.41	24.70	2.51	16.86	23.11	7.17	.2992	3.76
			7.0	29.43	27.43	3.22	17.91	20.41	12.75	.3230	3.10	31.72	23.30	2.77	16.54	24.22	8.78	.2753	4.16

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(o) $\epsilon_p = 30°$; $\Gamma = 5°$; $\epsilon_r = 2.90°$- Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.09	2.56	28.35	1.08	2.55	28.36	1.08	2.55	28.36	1.08	2.54	28.37	1.08	2.54	28.38	1.08	2.54	28.38
1.10	2.22	28.97	1.10	2.22	28.98	1.09	2.22	28.98	1.09	2.22	28.98	1.09	2.21	28.99	1.09	2.21	28.99
1.12	2.12	29.23	1.11	2.12	29.23	1.11	2.12	29.24	1.11	2.12	29.24	1.11	2.12	29.24	1.10	2.11	29.24
1.14	2.07	29.38	1.13	2.07	29.38	1.13	2.07	29.38	1.13	2.07	29.38	1.12	2.07	29.39	1.12	2.07	29.39
1.16	2.05	29.48	1.16	2.05	29.48	1.15	2.05	29.48	1.15	2.05	29.48	1.14	2.05	29.48	1.14	2.05	29.49
1.18	2.03	29.55	1.18	2.03	29.55	1.17	2.03	29.55	1.17	2.03	29.55	1.17	2.03	29.55	1.16	2.03	29.56
1.23	2.02	29.64	1.22	2.02	29.64	1.22	2.02	29.64	1.21	2.02	29.65	1.21	2.02	29.65	1.20	2.02	29.65
1.28	2.01	29.70	1.27	2.01	29.70	1.26	2.01	29.70	1.26	2.01	29.71	1.25	2.01	29.71	1.25	2.01	29.71
1.33	2.00	29.74	1.32	2.00	29.74	1.31	2.00	29.75	1.31	2.00	29.75	1.30	2.00	29.75	1.29	2.00	29.75
1.38	2.00	29.77	1.37	2.00	29.77	1.36	2.00	29.78	1.35	2.00	29.78	1.34	2.00	29.78	1.34	2.00	29.78
1.44	2.00	29.80	1.42	2.00	29.80	1.41	2.00	29.80	1.40	2.00	29.80	1.39	2.00	29.80	1.38	2.00	29.81
1.49	2.00	29.81	1.48	2.00	29.82	1.47	2.00	29.82	1.45	2.00	29.82	1.44	2.00	29.82	1.43	2.00	29.82
1.79	1.99	29.87	1.77	1.99	29.87	1.75	1.99	29.87	1.73	1.99	29.87	1.71	1.99	29.88	1.69	1.99	29.88
1.19	5.29	26.30	1.18	5.26	26.34	1.17	5.24	26.38	1.17	5.21	26.42	1.16	5.19	26.45	1.16	5.16	26.49
1.20	4.44	27.82	1.20	4.43	27.83	1.19	4.43	27.85	1.19	4.42	27.86	1.18	4.41	27.88	1.18	4.41	27.89
1.24	4.23	28.37	1.24	4.22	28.38	1.23	4.22	28.39	1.23	4.21	28.40	1.22	4.21	28.41	1.21	4.21	28.43
1.29	4.13	28.68	1.28	4.13	28.69	1.28	4.13	28.70	1.27	4.13	28.71	1.26	4.12	28.72	1.25	4.12	28.73
1.34	4.09	28.88	1.33	4.08	28.88	1.32	4.08	28.89	1.31	4.08	28.90	1.30	4.08	28.91	1.30	4.08	28.92
1.39	4.06	29.02	1.38	4.06	29.02	1.37	4.05	29.03	1.36	4.05	29.04	1.35	4.05	29.05	1.34	4.05	29.06
1.50	4.03	29.20	1.48	4.03	29.21	1.47	4.02	29.22	1.46	4.02	29.23	1.45	4.02	29.24	1.43	4.02	29.25
1.61	4.01	29.31	1.59	4.01	29.32	1.58	4.01	29.33	1.56	4.01	29.34	1.55	4.01	29.35	1.53	4.01	29.36
1.73	4.00	29.39	1.71	4.00	29.40	1.69	4.00	29.41	1.67	4.00	29.42	1.66	4.00	29.43	1.64	4.00	29.44
1.85	4.00	29.45	1.83	4.00	29.46	1.81	4.00	29.47	1.79	4.00	29.48	1.77	4.00	29.49	1.74	3.99	29.50
1.98	4.00	29.49	1.95	3.99	29.50	1.93	3.99	29.51	1.90	3.99	29.52	1.88	3.99	29.53	1.86	3.99	29.54
2.11	3.99	29.52	2.08	3.99	29.53	2.05	3.99	29.54	2.03	3.99	29.55	2.00	3.99	29.56	1.97	3.99	29.57
2.81	3.99	29.61	2.76	3.99	29.62	2.72	3.99	29.63	2.67	3.99	29.64	2.62	3.99	29.65	2.58	3.99	29.66
1.32	8.74	23.21	1.30	8.54	23.49	1.29	8.38	23.72	1.28	8.25	23.91	1.27	8.14	24.07	1.26	8.04	24.21
1.32	6.68	26.62	1.31	6.66	26.66	1.30	6.64	26.70	1.29	6.62	26.74	1.28	6.61	26.78	1.28	6.59	26.82
1.38	6.33	27.52	1.37	6.32	27.55	1.36	6.31	27.57	1.35	6.30	27.60	1.34	6.29	27.63	1.33	6.28	27.66
1.45	6.19	27.99	1.44	6.18	28.02	1.43	6.18	28.04	1.42	6.17	28.07	1.41	6.16	28.09	1.40	6.16	28.12
1.53	6.12	28.29	1.52	6.11	28.32	1.51	6.11	28.34	1.49	6.10	28.37	1.48	6.10	28.39	1.47	6.09	28.41
1.62	6.08	28.50	1.60	6.07	28.53	1.59	6.07	28.55	1.57	6.06	28.57	1.55	6.06	28.60	1.54	6.06	28.62
1.80	6.03	28.77	1.77	6.03	28.79	1.75	6.03	28.82	1.73	6.03	28.84	1.71	6.02	28.86	1.69	6.02	28.89
1.98	6.01	28.93	1.96	6.01	28.96	1.93	6.01	28.98	1.91	6.01	29.01	1.88	6.00	29.03	1.86	6.00	29.05
2.18	6.00	29.04	2.15	6.00	29.07	2.12	6.00	29.09	2.09	6.00	29.11	2.06	6.00	29.14	2.03	5.99	29.16
2.39	6.00	29.12	2.35	5.99	29.14	2.31	5.99	29.17	2.28	5.99	29.19	2.24	5.99	29.21	2.21	5.99	29.24
2.60	5.99	29.17	2.55	5.99	29.19	2.51	5.99	29.22	2.47	5.99	29.24	2.43	5.99	29.27	2.39	5.98	29.29
2.81	5.99	29.21	2.76	5.99	29.24	2.72	5.99	29.26	2.67	5.99	29.29	2.62	5.98	29.31	2.58	5.98	29.34
3.93	5.98	29.31	3.86	5.98	29.34	3.78	5.98	29.37	3.71	5.98	29.39	3.64	5.98	29.42	3.56	5.98	29.45
1.44	8.96	25.31	1.43	8.92	25.40	1.42	8.88	25.49	1.40	8.85	25.57	1.39	8.81	25.65	1.38	8.78	25.73
1.53	8.44	26.63	1.51	8.42	26.69	1.50	8.40	26.75	1.49	8.38	26.81	1.47	8.37	26.87	1.46	8.35	26.92
1.63	8.25	27.29	1.62	8.23	27.35	1.60	8.22	27.40	1.58	8.21	27.45	1.57	8.20	27.50	1.55	8.19	27.55
1.75	8.15	27.70	1.73	8.14	27.75	1.71	8.13	27.80	1.69	8.12	27.85	1.67	8.11	27.89	1.65	8.11	27.94
1.87	8.10	27.98	1.84	8.09	28.02	1.82	8.08	28.07	1.80	8.07	28.12	1.77	8.07	28.16	1.75	8.06	28.21
2.12	8.04	28.32	2.09	8.04	28.37	2.06	8.03	28.42	2.03	8.03	28.46	2.00	8.02	28.51	1.97	8.02	28.55
2.39	8.02	28.53	2.35	8.01	28.57	2.32	8.01	28.62	2.28	8.01	28.67	2.24	8.00	28.71	2.21	8.00	28.76
2.67	8.01	28.66	2.62	8.00	28.70	2.58	8.00	28.75	2.54	7.99	28.80	2.49	7.99	28.84	2.45	7.99	28.89
2.96	8.00	28.74	2.91	7.99	28.79	2.85	7.99	28.84	2.80	7.99	28.89	2.75	7.98	28.94	2.70	7.98	28.98
3.25	7.99	28.81	3.19	7.99	28.86	3.13	7.99	28.91	3.08	7.98	28.95	3.02	7.98	29.00	2.96	7.98	29.05
3.55	7.99	28.85	3.48	7.99	28.90	3.42	7.98	28.95	3.35	7.98	29.00	3.29	7.98	29.05	3.22	7.98	29.10
5.09	7.98	28.97	4.99	7.98	29.02	4.89	7.98	29.07	4.79	7.98	29.12	4.69	7.97	29.17	4.59	7.97	29.22
1.58	11.36	23.75	1.56	11.27	23.95	1.54	11.18	24.13	1.52	11.11	24.30	1.50	11.04	24.46	1.49	10.98	24.61
1.69	10.58	25.68	1.67	10.54	25.79	1.65	10.50	25.90	1.63	10.47	26.00	1.61	10.44	26.10	1.59	10.41	26.20
1.82	10.32	26.55	1.80	10.29	26.65	1.78	10.27	26.74	1.75	10.25	26.83	1.73	10.23	26.91	1.71	10.21	27.00
1.97	10.19	27.07	1.94	10.18	27.16	1.92	10.16	27.24	1.89	10.14	27.33	1.87	10.13	27.41	1.84	10.11	27.49
2.13	10.13	27.41	2.10	10.11	27.50	2.07	10.10	27.58	2.04	10.09	27.66	2.01	10.07	27.74	1.98	10.06	27.81
2.46	10.06	27.83	2.42	10.05	27.91	2.38	10.04	27.99	2.35	10.03	28.07	2.31	10.02	28.15	2.27	10.01	28.22
2.82	10.03	28.07	2.77	10.02	28.15	2.72	10.01	28.23	2.67	10.00	28.31	2.62	10.00	28.39	2.58	9.99	28.46
3.18	10.01	28.22	3.12	10.01	28.30	3.06	10.00	28.38	3.01	9.99	28.46	2.95	9.99	28.54	2.89	9.98	28.62
3.55	10.00	28.32	3.48	10.00	28.40	3.42	9.99	28.48	3.35	9.98	28.56	3.29	9.98	28.64	3.22	9.98	28.72
3.93	10.00	28.39	3.85	9.99	28.48	3.78	9.99	28.56	3.70	9.98	28.64	3.63	9.98	28.71	3.56	9.97	28.79
4.31	9.99	28.44	4.23	9.99	28.53	4.14	9.98	28.61	4.06	9.98	28.69	3.98	9.97	28.77	3.89	9.97	28.85
6.27	9.98	28.57	6.14	9.98	28.65	6.01	9.97	28.74	5.89	9.97	28.82	5.76	9.97	28.90	5.63	9.97	28.98
1.74	14.10	21.53	1.71	13.83	22.05	1.68	13.63	22.47	1.65	13.47	22.81	1.62	13.33	23.12	1.60	13.22	23.39
1.85	12.75	24.59	1.83	12.69	24.79	1.80	12.63	24.97	1.77	12.57	25.15	1.75	12.52	25.32	1.72	12.47	25.47
2.02	12.40	25.73	1.99	12.36	25.88	1.96	12.33	26.03	1.93	12.29	26.18	1.90	12.26	26.32	1.88	12.23	26.45
2.21	12.25	26.37	2.17	12.22	26.51	2.14	12.19	26.65	2.10	12.17	26.78	2.07	12.14	26.91	2.04	12.12	27.03
2.41	12.17	26.78	2.37	12.14	26.92	2.33	12.12	27.05	2.29	12.10	27.18	2.25	12.08	27.30	2.21	12.06	27.42
2.82	12.08	27.28	2.77	12.07	27.41	2.72	12.05	27.53	2.67	12.04	27.65	2.62	12.02	27.77	2.58	12.01	27.89
3.26	12.05	27.55	3.19	12.03	27.68	3.13	12.02	27.80	3.07	12.01	27.93	3.02	12.00	28.04	2.96	11.99	28.16
3.70	12.03	27.72	3.63	12.01	27.85	3.56	12.00	27.97	3.49	11.99	28.09	3.42	11.98	28.21	3.35	11.98	28.33
4.16	12.02	27.83	4.08	12.00	27.96	3.99	11.99	28.08	3.91	11.98	28.21	3.83	11.98	28.32	3.75	11.97	28.44
4.62	12.01	27.91	4.53	12.00	28.04	4.43	11.99	28.16	4.34	11.98	28.28	4.25	11.97	28.40	4.16	11.97	28.52
5.09	12.00	27.97	4.98	11.99	28.09	4.88	11.98	28.22	4.78	11.98	28.34	4.67	11.97	28.46	4.57	11.96	28.58
7.46	11.99	28.10	7.30	11.98	28.23	7.15	11.97	28.36	6.99	11.97	28.48	6.83	11.96	28.60	6.68	11.96	28.72
-	-	-	-	-	-	1.85	16.63	19.73	1.80	16.09	20.78	1.76	15.77	21.45	1.72	15.53	21.97
2.03	15.02	23.25	2.00	14.89	23.60	1.96	14.79	23.92	1.93	14.69	24.21	1.90	14.61	24.47	1.87	14.54	24.72
2.23	14.53	24.76	2.19	14.46	25.02	2.15	14.40	25.26	2.12	14.35	25.48	2.08	14.30	25.69	2.05	14.26	25.89
2.45	14.33	25.56	2.41	14.28	25.78	2.37	14.24	25.99	2.33	14.20	26.20	2.29	14.16	26.39	2.25	14.13	26.57
2.69	14.22	26.06	2.64	14.18	26.27	2.59	14.15	26.46	2.55	14.12	26.65	2.50	14.09	26.84	2.45	14.07	27.01
3.19	14.12	26.63	3.13	14.09	26.83	3.07	14.07	27.02	3.01	14.04	27.20	2.95	14.03	27.37	2.89	14.01	27.54
3.71	14.08	26.95	3.63	14.05	27.14	3.56	14.03	27.32	3.49	14.01	27.50	3.42	14.00	27.67	3.35	13.98	27.84
4.24	14.05	27.14	4.15	14.03	27.33	4.06	14.01	27.51	3.98	14.00	27.68	3.90	13.98	27.86	3.81	13.97	28.02
4.78	14.04	27.26	4.68	14.02	27.45	4.58	14.00	27.63	4.48	13.99	27.81	4.38	13.97	27.98	4.29	13.96	28.15
5.32	14.03	27.35	5.21	14.01	27.53	5.10	13.99	27.72	4.99	13.98	27.89	4.88	13.97	28.06	4.77	13.96	28.23
5.87	14.02	27.41	5.75	14.00	27.60	5.62	13.99	27.78	5.50	13.98	27.95	5.38	13.97	28.12	5.26	13.96	28.29
8.66	14.01	27.56	8.47	13.99	27.74	8.28	13.98	27.92	8.09	13.97	28.10	7.91	13.96	28.27	7.73	13.95	28.44
-	-	-	-	-	-	-	-	-	-	-	-	1.93	18.80	18.58	1.86	18.05	20.10
2.24	17.50	21.36	2.18	17.23	22.07	2.13	17.02	22.64	2.09	16.86	23.11	2.05	16.73	23.53	2.01	16.62	23.91
2.45	16.72	23.58	2.40	16.60	23.99	2.35	16.50	24.36	2.31	16.42	24.70	2.27	16.35	25.01	2.22	16.28	25.31
2.71	16.44	24.59	2.66	16.36	24.94	2.60	16.30	25.25	2.55	16.24	25.55	2.50	16.19	25.83	2.46	16.14	26.09

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(c) $\epsilon_p = 30°$; $\Gamma = 5°$; $\epsilon_r = 2.90°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	30.74	32.49	8.0	30.34	25.80	3.48	17.21	22.13	14.92	.3127	3.37	31.86	22.41	3.05	16.38	24.86	10.69	.2562	4.49
			10.0	30.87	24.40	4.13	16.79	23.36	21.10	.2948	3.68	32.00	21.36	3.64	16.23	25.57	15.31	.2295	4.99
			12.0	31.08	23.71	4.83	16.62	23.91	28.88	.2831	3.87	32.06	20.78	4.26	16.17	25.94	20.98	.2126	5.33
			14.0	31.18	23.30	5.54	16.54	24.22	38.12	.2754	4.00	32.10	20.42	4.89	16.13	26.16	27.68	.2016	5.57
			16.0	31.24	23.04	6.26	16.49	24.41	48.80	.2700	4.08	32.12	20.19	5.52	16.11	26.31	35.41	.1940	5.74
			18.0	31.28	22.86	6.99	16.46	24.54	60.92	.2663	4.14	32.13	20.03	6.17	16.10	26.41	44.18	.1886	5.87
			20.0	31.31	22.73	7.73	16.43	24.63	74.48	.2635	4.19	32.14	19.91	6.81	16.09	26.48	53.97	.1846	5.97
			30.0	31.38	22.43	11.45	16.38	24.85	163.7	.2567	4.30	32.17	19.64	10.08	16.07	26.64	118.4	.1749	6.22
18	34.14	33.27	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	31.48	27.53	2.77	19.37	21.04	8.81	.2750	3.45
			7.0	-	-	-	-	-	-	-	-	32.09	25.88	3.06	18.80	22.75	10.72	.2559	3.83
			8.0	-	-	-	-	-	-	-	-	32.34	24.93	3.37	18.57	23.60	13.10	.2400	4.12
			10.0	-	-	-	-	-	-	-	-	32.56	23.85	4.04	18.36	24.50	18.91	.2176	4.53
			12.0	30.58	27.56	6.55	19.39	21.00	38.32	.2752	3.31	32.65	23.28	4.74	18.27	24.95	26.07	.2037	4.80
			14.0	30.92	26.94	6.34	19.14	21.68	50.09	.2695	3.43	32.70	22.93	5.45	18.22	25.21	34.54	.1947	4.99
			16.0	31.09	26.59	7.16	19.02	22.05	63.91	.2655	3.50	32.74	22.70	6.17	18.19	25.38	44.31	.1885	5.12
			18.0	31.19	26.36	7.99	18.94	22.28	79.66	.2627	3.56	32.76	22.54	6.90	18.17	25.49	55.40	.1842	5.22
			20.0	31.26	26.20	8.83	18.90	22.44	97.30	.2605	3.59	32.77	22.43	7.63	18.16	25.57	67.78	.1810	5.29
			30.0	31.40	25.84	13.08	18.79	22.79	213.6	.2553	3.68	32.80	22.17	11.32	18.13	25.76	149.3	.1732	5.48
20	37.39	34.13	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	32.15	28.92	3.39	21.39	20.37	13.20	.2394	3.48
			8.0	-	-	-	-	-	-	-	-	32.69	27.70	3.72	20.91	21.82	15.97	.2269	3.75
			10.0	-	-	-	-	-	-	-	-	33.08	26.51	4.46	20.57	23.08	23.07	.2085	4.10
			12.0	-	-	-	-	-	-	-	-	33.23	25.90	5.24	20.43	23.66	31.88	.1970	4.33
			14.0	-	-	-	-	-	-	-	-	33.31	25.54	6.04	20.37	23.99	42.34	.1895	4.48
			16.0	-	-	-	-	-	-	-	-	33.36	25.31	6.84	20.32	24.20	54.42	.1845	4.58
			18.0	-	-	-	-	-	-	-	-	33.39	25.15	7.65	20.30	24.34	68.12	.1809	4.66
			20.0	-	-	-	-	-	-	-	-	33.41	25.04	8.47	20.28	24.43	83.44	.1783	4.71
			30.0	-	-	-	-	-	-	-	-	33.46	24.78	12.57	20.24	24.66	184.2	.1719	4.85
22	40.49	35.08	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	33.37	29.50	4.92	23.01	20.90	28.13	.2010	3.68
			12.0	-	-	-	-	-	-	-	-	33.68	28.76	5.77	22.75	21.82	38.72	.1917	3.88
			14.0	-	-	-	-	-	-	-	-	33.83	28.35	6.65	22.63	22.30	51.39	.1855	4.01
			16.0	-	-	-	-	-	-	-	-	33.92	28.09	7.53	22.56	22.59	66.06	.1813	4.10
			18.0	-	-	-	-	-	-	-	-	33.97	27.92	8.43	22.52	22.78	82.72	.1784	4.16
			20.0	-	-	-	-	-	-	-	-	34.00	27.80	9.33	22.49	22.91	101.3	.1762	4.20
			30.0	-	-	-	-	-	-	-	-	34.08	27.52	13.86	22.43	23.21	224.0	.1710	4.32
24	43.44	36.11	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	33.79	31.81	7.38	25.37	19.13	63.38	.1820	3.53
			16.0	-	-	-	-	-	-	-	-	34.07	31.37	8.33	25.15	19.83	80.77	.1787	3.62
			18.0	-	-	-	-	-	-	-	-	34.22	31.11	9.30	25.04	20.22	100.8	.1763	3.68
			20.0	-	-	-	-	-	-	-	-	34.31	30.94	10.28	24.97	20.47	123.2	.1745	3.72
			30.0	-	-	-	-	-	-	-	-	34.49	30.57	15.26	24.83	20.99	271.4	.1702	3.82
26	46.25	37.20	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	48.92	38.35	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	51.45	39.56	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	53.85	40.83	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(o) $\epsilon_p = 30°$; $\Gamma = 5°$; $\epsilon_r = 2.90°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
2.99	16.31	25.20	2.93	16.24	25.51	2.87	16.19	25.80	2.81	16.15	26.08	2.75	16.11	26.34	2.70	16.07	26.59
3.57	16.18	25.87	3.49	16.13	26.16	3.42	16.09	26.43	3.35	16.06	26.69	3.28	16.03	26.94	3.21	16.01	27.18
4.17	16.12	26.23	4.08	16.08	26.51	3.99	16.05	26.77	3.90	16.02	27.02	3.82	16.00	27.27	3.74	15.98	27.50
4.78	16.09	26.45	4.67	16.06	26.72	4.57	16.03	26.98	4.47	16.00	27.23	4.38	15.98	27.47	4.28	15.97	27.70
5.40	16.07	26.59	5.28	16.04	26.86	5.17	16.01	27.11	5.05	15.99	27.36	4.94	15.97	27.60	4.83	15.96	27.83
6.03	16.06	26.69	5.89	16.03	26.95	5.76	16.01	27.21	5.63	15.98	27.45	5.51	15.97	27.69	5.38	15.96	27.91
6.66	16.05	26.75	6.51	16.02	27.02	6.36	16.00	27.27	6.22	15.98	27.52	6.08	15.96	27.75	5.94	15.95	27.98
9.85	16.03	26.92	9.63	16.01	27.18	9.41	15.99	27.43	9.19	15.97	27.67	8.98	15.96	27.91	8.77	15.95	28.13
-	-	-	2.40	19.98	19.53	2.32	19.43	20.88	2.26	19.12	21.75	2.21	18.90	22.43	2.16	18.73	23.01
2.69	19.04	21.98	2.62	18.82	22.70	2.56	18.65	23.29	2.51	18.52	23.80	2.45	18.41	24.26	2.40	18.32	24.67
2.98	18.63	23.37	2.91	18.49	23.91	2.85	18.38	24.38	2.79	18.29	24.81	2.73	18.22	25.21	2.67	18.16	25.57
3.29	18.44	24.13	3.22	18.33	24.60	3.15	18.25	25.03	3.08	18.18	25.42	3.01	18.13	25.79	2.95	18.08	26.13
3.95	18.27	24.95	3.86	18.19	25.37	3.77	18.13	25.76	3.69	18.08	26.12	3.61	18.04	26.46	3.53	18.01	26.78
4.63	18.19	25.37	4.53	18.13	25.77	4.42	18.08	26.14	4.32	18.04	26.49	4.23	18.01	26.82	4.13	17.98	27.13
5.33	18.15	25.62	5.20	18.10	26.01	5.09	18.05	26.37	4.97	18.02	26.71	4.86	17.99	27.03	4.75	17.97	27.34
6.03	18.13	25.78	5.89	18.08	26.16	5.75	18.04	26.52	5.62	18.00	26.85	5.49	17.98	27.17	5.37	17.96	27.48
6.74	18.11	25.89	6.58	18.06	26.27	6.43	18.02	26.62	6.28	17.99	26.95	6.14	17.97	27.27	5.99	17.95	27.57
7.45	18.10	25.97	7.28	18.05	26.34	7.11	18.02	26.69	6.94	17.99	27.02	6.78	17.97	27.34	6.62	17.95	27.64
11.05	18.08	26.15	10.79	18.04	26.52	10.54	18.00	26.86	10.29	17.98	27.19	10.05	17.96	27.50	9.81	17.94	27.80
-	-	-	-	-	-	-	-	-	2.45	21.60	19.78	2.38	21.15	21.05	2.32	20.87	21.96
2.99	21.91	19.00	2.87	21.22	20.84	2.78	20.88	21.91	2.71	20.66	22.72	2.65	20.49	23.39	2.59	20.37	23.98
3.27	20.95	21.68	3.18	20.69	22.59	3.10	20.51	23.33	3.02	20.37	23.95	2.95	20.27	24.50	2.89	20.18	25.00
3.61	20.65	22.74	3.52	20.47	23.48	3.43	20.34	24.11	3.35	20.24	24.67	3.28	20.16	25.17	3.20	20.09	25.63
4.34	20.41	23.79	4.24	20.28	24.41	4.14	20.19	24.96	4.04	20.12	25.46	3.95	20.06	25.92	3.86	20.01	26.34
5.11	20.30	24.31	4.98	20.20	24.88	4.86	20.12	25.40	4.75	20.06	25.87	4.64	20.02	26.31	4.53	19.98	26.72
5.88	20.25	24.61	5.74	20.16	25.16	5.60	20.09	25.66	5.47	20.04	26.12	5.34	20.00	26.55	5.21	19.96	26.95
6.67	20.22	24.80	6.50	20.13	25.33	6.34	20.07	25.82	6.19	20.02	26.28	6.05	19.98	26.70	5.91	19.96	27.10
7.46	20.19	24.92	7.27	20.12	25.44	7.10	20.06	25.94	6.93	20.01	26.38	6.76	19.98	26.80	6.60	19.95	27.20
8.25	20.18	25.01	8.05	20.10	25.54	7.85	20.05	26.02	7.66	20.00	26.46	7.48	19.97	26.88	7.30	19.95	27.27
12.25	20.15	25.23	11.95	20.08	25.74	11.66	20.03	26.20	11.38	19.99	26.64	11.10	19.96	27.05	10.84	19.94	27.45
-	-	-	-	-	-	-	-	-	-	-	-	2.56	23.65	18.98	2.48	23.08	20.66
-	-	-	-	-	-	3.03	23.35	19.82	2.92	22.89	21.32	2.84	22.62	22.36	2.77	22.43	23.19
3.66	24.06	17.92	3.47	23.08	20.67	3.36	22.72	21.96	3.26	22.49	22.91	3.18	22.33	23.69	3.11	22.21	24.37
3.96	23.09	20.64	3.83	22.71	21.99	3.72	22.48	22.97	3.63	22.32	23.77	3.54	22.20	24.46	3.46	22.11	25.08
4.76	22.65	22.23	4.62	22.43	23.20	4.50	22.28	24.00	4.39	22.16	24.69	4.28	22.08	25.30	4.18	22.02	25.86
5.60	22.49	22.91	5.44	22.32	23.78	5.30	22.19	24.51	5.17	22.10	25.16	5.04	22.03	25.74	4.92	21.98	26.28
6.45	22.41	23.30	6.28	22.26	24.11	6.11	22.15	24.81	5.96	22.07	25.43	5.82	22.01	26.00	5.68	21.97	26.52
7.31	22.36	23.53	7.12	22.22	24.32	6.94	22.12	25.00	6.76	22.05	25.61	6.60	21.99	26.17	6.44	21.96	26.68
8.19	22.33	23.69	7.97	22.20	24.46	7.76	22.10	25.13	7.57	22.03	25.73	7.38	21.98	26.28	7.21	21.95	26.79
9.06	22.31	23.80	8.82	22.18	24.56	8.59	22.09	25.22	8.38	22.03	25.81	8.17	21.98	26.36	7.98	21.95	26.87
13.47	22.26	24.06	13.11	22.15	24.79	12.78	22.07	25.43	12.46	22.01	26.01	12.15	21.96	26.55	11.86	21.94	27.05
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.65	25.49	18.79
-	-	-	-	-	-	-	-	-	3.16	25.36	19.16	3.05	24.81	21.03	2.96	24.52	22.26
-	-	-	-	-	-	3.64	25.13	19.91	3.51	24.68	21.57	3.42	24.43	22.73	3.33	24.26	23.66
-	-	-	4.19	25.24	19.56	4.03	24.71	21.44	3.91	24.44	22.67	3.81	24.26	23.64	3.71	24.14	24.46
5.23	25.23	19.57	5.02	24.69	21.54	4.87	24.41	22.79	4.74	24.24	23.77	4.62	24.12	24.60	4.50	24.03	25.33
6.12	24.87	20.83	5.92	24.51	22.33	5.74	24.30	23.42	5.59	24.16	24.32	5.45	24.06	25.09	5.32	23.99	25.78
7.05	24.72	21.42	6.83	24.42	22.75	6.63	24.24	23.78	6.46	24.11	24.69	6.29	24.03	25.38	6.14	23.97	26.05
8.00	24.63	21.77	7.75	24.37	23.02	7.53	24.20	24.00	7.33	24.09	24.83	7.15	24.01	25.56	6.97	23.96	26.22
8.95	24.58	21.99	8.67	24.34	23.19	8.43	24.18	24.15	8.21	24.07	24.97	8.00	24.00	25.69	7.80	23.95	26.34
9.90	24.55	22.15	9.60	24.31	23.32	9.34	24.16	24.26	9.09	24.06	25.06	8.86	23.99	25.77	8.64	23.95	26.42
14.72	24.47	22.50	14.29	24.26	23.60	13.89	24.13	24.50	13.53	24.04	25.28	13.19	23.98	25.98	12.86	23.94	26.62
-	-	-	-	-	-	-	-	-	-	-	-	3.27	27.19	19.10	3.15	26.66	21.13
-	-	-	-	-	-	-	-	-	3.78	27.05	19.60	3.65	26.57	21.51	3.55	26.32	22.82
-	-	-	-	-	-	4.37	27.25	18.90	4.20	26.64	21.22	4.07	26.35	22.64	3.96	26.17	23.75
-	-	-	5.50	27.39	18.43	5.26	26.66	21.13	5.09	26.35	22.63	4.95	26.17	23.78	4.82	26.05	24.73
-	-	-	6.43	26.91	20.10	6.20	26.47	21.99	6.02	26.24	23.29	5.85	26.10	24.34	5.70	26.00	25.23
-	-	-	7.41	26.74	20.79	7.16	26.38	22.45	6.95	26.18	23.66	6.77	26.06	24.66	6.60	25.98	25.52
8.84	27.48	18.17	8.40	26.64	21.19	8.13	26.33	22.73	7.90	26.15	23.90	7.69	26.04	24.87	7.49	25.96	25.71
9.84	27.26	18.87	9.40	26.59	21.44	9.10	26.30	22.92	8.85	26.13	24.05	8.61	26.02	25.00	8.40	25.96	25.84
10.87	27.14	19.25	10.41	26.55	21.61	10.09	26.28	23.05	9.80	26.12	24.16	9.54	26.01	25.10	9.30	25.95	25.93
16.11	26.94	19.98	15.49	26.47	22.00	15.02	26.23	23.35	14.60	26.09	24.42	14.22	25.99	25.33	13.85	25.94	26.14
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.35	28.89	19.61
-	-	-	-	-	-	-	-	-	-	-	-	3.90	28.83	19.84	3.77	28.41	21.82
-	-	-	-	-	-	-	-	-	4.51	29.06	18.95	4.34	28.49	21.38	4.22	28.22	22.92
-	-	-	-	-	-	5.71	29.30	18.10	5.46	28.54	21.12	5.29	28.25	22.78	5.14	28.08	24.04
-	-	-	-	-	-	6.68	28.83	19.84	6.44	28.38	21.98	6.26	28.15	23.44	6.09	28.02	24.60
-	-	-	-	-	-	7.71	28.66	20.56	7.45	28.30	22.45	7.24	28.10	23.81	7.05	27.99	24.93
-	-	-	-	-	-	8.75	28.57	20.98	8.47	28.25	22.74	8.23	28.08	24.05	8.01	27.97	25.13
-	-	-	10.28	29.33	18.00	9.80	28.52	21.24	9.49	28.22	22.93	9.22	28.06	24.21	8.98	27.96	25.27
-	-	-	11.35	29.18	18.51	10.85	28.48	21.42	10.51	28.20	23.06	10.22	28.05	24.32	9.95	27.96	25.37
-	-	-	16.82	28.94	19.38	16.16	28.40	21.83	15.66	28.16	23.37	15.23	28.02	24.58	14.83	27.94	25.60
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.58	31.46	16.90
-	-	-	-	-	-	-	-	-	-	-	-	4.21	31.69	16.15	4.00	30.55	20.55
-	-	-	-	-	-	-	-	-	-	-	-	4.63	30.75	19.61	4.47	30.30	21.92
-	-	-	-	-	-	-	-	-	5.85	30.96	18.71	5.62	30.37	21.52	5.46	30.12	23.24
-	-	-	-	-	-	-	-	-	6.89	30.63	20.14	6.66	30.24	22.34	6.47	30.05	23.88
-	-	-	-	-	-	-	-	-	7.96	30.50	20.81	7.71	30.17	22.79	7.49	30.01	24.24
-	-	-	-	-	-	9.49	31.28	17.50	9.04	30.42	21.20	8.76	30.14	23.07	8.52	29.99	24.47
-	-	-	-	-	-	10.59	31.08	18.26	10.13	30.38	21.46	9.82	30.12	23.25	9.55	29.98	24.63
-	-	-	-	-	-	11.71	30.97	18.67	11.23	30.35	21.63	10.89	30.10	23.38	10.59	29.97	24.74
-	-	-	-	-	-	17.39	30.78	19.46	16.74	30.29	22.03	16.24	30.07	23.68	15.80	29.95	24.99
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.23	32.81	18.74
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.73	32.43	20.66
-	-	-	-	-	-	-	-	-	-	-	-	5.97	32.59	19.78	5.77	32.18	22.28
-	-	-	-	-	-	-	-	-	-	-	-	7.06	32.38	20.91	6.85	32.09	23.03
-	-	-	-	-	-	-	-	-	8.53	32.99	17.98	8.18	32.29	21.49	7.93	32.04	23.45
-	-	-	-	-	-	-	-	-	9.67	32.80	18.78	9.30	32.24	21.84	9.02	32.02	23.71
-	-	-	-	-	-	-	-	-	10.82	32.70	19.23	10.42	32.20	22.07	10.12	32.00	23.88
-	-	-	-	-	-	-	-	-	11.98	32.64	19.52	11.55	32.18	22.23	11.22	31.99	24.01
-	-	-	-	-	-	-	-	-	17.84	32.52	20.13	17.24	32.14	22.59	16.75	31.97	24.29

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES-Continued

(o) $\epsilon_p = 30°$; $\Gamma = 5°$; $\epsilon_r = 2.90°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	ϑ_s, eg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
34	56.13	42.14	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	58.29	43.49	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	60.35	44.89	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	62.31	46.32	14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	64.18	47.78	20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(o) $\epsilon_p = 30°$; $\Gamma = 5°$; $\epsilon_r = 2.90°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.99	34.65	18.88
-	-	-	-	-	-	-	-	-	-	-	-	6.39	35.33	16.00	6.09	34.27	21.09
-	-	-	-	-	-	-	-	-	-	-	-	7.49	34.67	18.77	7.22	34.15	22.00
-	-	-	-	-	-	-	-	-	-	-	-	8.66	34.50	19.68	8.37	34.09	22.50
-	-	-	-	-	-	-	-	-	-	-	-	9.84	34.41	20.18	9.52	34.06	22.80
-	-	-	-	-	-	-	-	-	-	-	-	11.03	34.36	20.50	10.68	34.04	23.01
-	-	-	-	-	-	-	-	-	-	-	-	12.23	34.33	20.71	11.84	34.02	23.15
-	-	-	-	-	-	-	-	-	-	-	-	18.24	34.25	21.19	17.68	33.99	23.48
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.40	36.43	19.48
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.59	36.25	20.70
-	-	-	-	-	-	-	-	-	-	-	-	9.26	37.33	15.30	8.80	36.16	21.32
-	-	-	-	-	-	-	-	-	-	-	-	10.44	36.85	17.28	10.01	36.12	21.70
-	-	-	-	-	-	-	-	-	-	-	-	11.68	36.71	17.96	11.23	36.09	21.95
-	-	-	-	-	-	-	-	-	-	-	-	12.93	36.63	18.36	12.46	36.07	22.12
-	-	-	-	-	-	-	-	-	-	-	-	19.26	36.49	19.16	18.60	36.03	22.51
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.75	38.84	16.66
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.97	38.43	18.87
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.23	38.30	19.77
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.50	38.23	20.27
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.78	38.19	20.59
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.06	38.16	20.81
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19.51	38.10	21.30
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.68	40.60	17.27
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.00	40.45	18.17
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.34	40.37	18.67
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.68	40.32	19.00
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.41	40.22	19.70
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.37	42.86	15.17
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.36	42.51	17.10

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(p) $\epsilon_p = 30^\circ$; $\Gamma = 10^\circ$; $\epsilon_r = 5.84^\circ$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$							$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	3.92	30.22	3.0	30.07	21.47	1.10	2.54	28.57	1.26	.8722	2.82	30.12	21.24	1.09	2.52	28.60	1.21	.8721	2.87
			4.0	30.18	16.19	1.11	2.20	29.19	1.29	.8577	3.76	30.19	15.95	1.10	2.19	29.20	1.24	.8567	3.84
			5.0	30.20	13.09	1.13	2.10	29.44	1.35	.8353	4.67	30.21	12.92	1.12	2.09	29.46	1.29	.8336	4.78
			6.0	30.20	11.11	1.16	2.05	29.59	1.42	.8118	5.55	30.21	10.94	1.14	2.05	29.60	1.35	.8093	5.71
			7.0	30.21	9.71	1.18	2.03	29.68	1.49	.7884	6.42	30.22	9.55	1.16	2.02	29.70	1.41	.7851	6.63
			8.0	30.21	8.67	1.21	2.01	29.75	1.57	.7656	7.26	30.22	8.51	1.18	2.01	29.76	1.47	.7614	7.53
			10.0	30.21	7.24	1.26	2.00	29.84	1.74	.7226	8.90	30.22	7.07	1.23	1.99	29.86	1.60	.7163	9.30
			12.0	30.21	6.30	1.32	1.99	29.90	1.92	.6831	10.45	30.22	6.13	1.28	1.99	29.91	1.75	.6746	11.02
			14.0	30.21	5.64	1.37	1.98	29.94	2.11	.6472	11.94	30.22	5.46	1.33	1.98	29.96	1.90	.6361	12.69
			16.0	30.21	5.15	1.44	1.98	29.97	2.33	.6145	13.35	30.22	4.97	1.39	1.98	29.99	2.07	.6009	14.30
			18.0	30.21	4.77	1.50	1.98	30.00	2.55	.5849	14.69	30.22	4.59	1.44	1.98	30.01	2.25	.5686	15.87
			20.0	30.21	4.48	1.56	1.98	30.01	2.80	.5581	15.97	30.22	4.29	1.50	1.97	30.03	2.44	.5390	17.39
			30.0	30.21	3.64	1.90	1.97	30.07	4.28	.4576	21.39	30.22	3.43	1.80	1.97	30.08	3.60	.4251	24.23
4	7.88	30.05	3.0	29.25	23.97	1.22	5.41	26.10	1.61	.7551	2.62	29.54	23.32	1.19	5.24	26.36	1.48	.7573	2.74
			4.0	29.85	17.97	1.23	4.43	27.79	1.66	.7425	3.53	29.93	17.55	1.21	4.39	27.87	1.53	.7392	3.68
			5.0	29.94	14.82	1.28	4.20	28.35	1.80	.7087	4.36	29.99	14.44	1.25	4.18	28.42	1.65	.7029	4.57
			6.0	29.97	12.82	1.33	4.10	28.66	1.97	.6737	5.14	30.01	12.44	1.29	4.09	28.72	1.78	.6655	5.44
			7.0	29.98	11.43	1.39	4.05	28.86	2.16	.6403	5.89	30.02	11.05	1.34	4.04	28.92	1.93	.6296	6.27
			8.0	29.99	10.41	1.45	4.02	29.00	2.36	.6096	6.60	30.03	10.03	1.39	4.01	29.05	2.10	.5960	7.08
			10.0	30.00	9.03	1.57	3.99	29.18	2.83	.5550	7.91	30.03	8.64	1.50	3.98	29.24	2.46	.5361	8.63
			12.0	30.01	8.15	1.70	3.97	29.30	3.37	.5099	9.09	30.03	7.74	1.62	3.97	29.35	2.88	.4855	10.07
			14.0	30.01	7.55	1.84	3.96	29.37	3.98	.4726	10.14	30.04	7.13	1.74	3.96	29.43	3.35	.4428	11.42
			16.0	30.01	7.11	1.98	3.96	29.43	4.66	.4417	11.08	30.04	6.68	1.86	3.95	29.48	3.88	.4070	12.66
			18.0	30.01	6.79	2.13	3.95	29.47	5.42	.4162	11.92	30.04	6.35	1.99	3.95	29.52	4.46	.3768	13.81
			20.0	30.01	6.55	2.28	3.95	29.50	6.25	.3950	12.65	30.04	6.10	2.12	3.95	29.55	5.10	.3513	14.87
			30.0	30.01	5.90	3.08	3.95	29.58	11.63	.3298	15.24	30.04	5.41	2.83	3.94	29.64	9.18	.2707	18.96
6	11.88	30.00	3.0	-	-	-	-	-	-	-	-	29.97	26.55	1.34	9.07	22.57	1.93	.6301	2.55
			4.0	29.48	20.07	1.37	6.74	26.21	2.11	.6484	3.30	29.71	19.32	1.32	6.63	26.45	1.88	.6424	3.52
			5.0	29.72	16.76	1.44	6.33	27.19	2.35	.6112	4.06	29.86	16.10	1.39	6.27	27.36	2.08	.6002	4.37
			6.0	29.80	14.73	1.53	6.17	27.69	2.66	.5727	4.75	29.91	14.09	1.46	6.13	27.84	2.32	.5572	5.17
			7.0	29.84	13.36	1.62	6.09	28.00	3.02	.5373	5.39	29.93	12.72	1.54	6.06	28.14	2.60	.5176	5.92
			8.0	29.86	12.37	1.71	6.04	28.21	3.42	.5059	5.97	29.94	11.73	1.63	6.01	28.35	2.92	.4819	6.64
			10.0	29.88	11.07	1.92	5.99	28.48	4.36	.4542	7.00	29.95	10.40	1.81	5.97	28.61	3.64	.4223	7.96
			12.0	29.89	10.26	2.14	5.97	28.64	5.46	.4149	7.86	29.96	9.58	2.00	5.95	28.78	4.48	.3758	9.14
			14.0	29.90	9.73	2.37	5.95	28.75	6.75	.3849	8.58	29.96	9.02	2.20	5.94	28.88	5.46	.3395	10.17
			16.0	29.90	9.35	2.60	5.94	28.82	8.21	.3617	9.18	29.96	8.63	2.40	5.93	28.96	6.57	.3111	11.08
			18.0	29.91	9.08	2.84	5.94	28.87	9.85	.3437	9.67	29.97	8.35	2.61	5.93	29.01	7.81	.2886	11.87
			20.0	29.91	8.88	3.09	5.93	28.91	11.68	.3295	10.09	29.97	8.14	2.83	5.92	29.05	9.19	.2706	12.57
			30.0	29.91	8.37	4.37	5.93	29.01	23.61	.2902	11.35	29.97	7.59	3.96	5.92	29.15	18.17	.2197	14.89
8	15.87	30.07	4.0	28.91	22.57	1.54	9.27	24.21	2.70	.5687	3.06	29.47	21.29	1.45	8.95	24.86	2.29	.5616	3.36
			5.0	29.51	18.93	1.62	8.52	25.87	3.04	.5357	3.77	29.80	17.91	1.54	8.38	26.24	2.59	.5193	4.16
			6.0	29.68	16.85	1.74	8.26	26.61	3.53	.4985	4.38	29.89	15.88	1.64	8.18	26.92	2.98	.4757	4.89
			7.0	29.76	15.49	1.87	8.14	27.04	4.12	.4652	4.91	29.94	14.53	1.76	8.08	27.33	3.43	.4367	5.57
			8.0	29.80	14.54	2.01	8.08	27.33	4.79	.4367	5.39	29.96	13.58	1.88	8.02	27.61	3.95	.4030	6.19
			10.0	29.85	13.31	2.30	8.00	27.69	6.38	.3924	6.18	29.98	12.33	2.14	7.96	27.96	5.15	.3495	7.30
			12.0	29.87	12.57	2.61	7.97	27.89	8.28	.3608	6.80	29.99	11.57	2.41	7.93	28.17	6.59	.3105	8.23
			14.0	29.88	12.09	2.93	7.95	28.02	10.51	.3380	7.28	30.00	11.08	2.69	7.92	28.30	8.28	.2818	9.01
			16.0	29.89	11.77	3.26	7.94	28.11	13.07	.3213	7.66	30.00	10.74	2.98	7.91	28.39	10.20	.2604	9.66
			18.0	29.89	11.54	3.60	7.93	28.17	15.97	.3087	7.96	30.01	10.50	3.28	7.91	28.45	12.38	.2442	10.19
			20.0	29.90	11.37	3.94	7.93	28.22	19.20	.2991	8.20	30.01	10.32	3.58	7.90	28.50	14.80	.2316	10.64
			30.0	29.90	10.95	5.70	7.92	28.33	40.38	.2740	8.87	30.01	9.87	5.14	7.89	28.61	30.67	.1982	11.99
10	19.84	30.26	4.0	-	-	-	-	-	-	-	-	29.11	23.59	1.60	11.46	22.86	2.82	.4920	3.18
			5.0	29.22	21.40	1.82	10.83	24.22	3.91	.4760	3.47	29.78	19.87	1.70	10.53	25.01	3.20	.4551	3.95
			6.0	29.58	19.20	1.97	10.42	25.32	4.62	.4433	4.01	29.96	17.82	1.84	10.24	25.93	3.77	.4139	4.62
			7.0	29.72	17.83	2.14	10.24	25.92	5.49	.4141	4.46	30.03	16.49	1.99	10.11	26.46	4.44	.3778	5.22
			8.0	29.80	16.89	2.32	10.14	26.31	6.51	.3896	4.84	30.07	15.56	2.15	10.03	26.82	5.21	.3476	5.75
			10.0	29.88	15.72	2.71	10.05	26.76	8.93	.3530	5.45	30.11	14.39	2.48	9.96	27.25	7.03	.3017	6.67
			12.0	29.91	15.04	3.11	10.00	27.01	11.88	.3282	5.89	30.13	13.69	2.84	9.93	27.49	9.24	.2700	7.40
			14.0	29.93	14.61	3.53	9.97	27.17	15.34	.3110	6.22	30.14	13.24	3.21	9.91	27.64	11.84	.2477	7.97
			16.0	29.95	14.32	3.96	9.96	27.27	19.33	.2988	6.47	30.15	12.94	3.58	9.90	27.75	14.82	.2315	8.43
			18.0	29.96	14.11	4.39	9.95	27.34	23.85	.2898	6.66	30.15	12.73	3.97	9.89	27.82	18.19	.2196	8.79
			20.0	29.96	13.97	4.83	9.94	27.39	28.90	.2831	6.80	30.16	12.58	4.35	9.89	27.87	21.96	.2106	9.09
			30.0	29.98	13.61	7.06	9.92	27.52	62.06	.2660	7.19	30.16	12.19	6.34	9.88	28.00	46.69	.1874	9.92
12	23.74	30.57	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	28.48	24.53	2.08	13.56	21.70	5.14	.4248	3.14	29.77	22.03	1.88	12.76	23.55	3.94	.4035	3.73
			6.0	29.37	21.86	2.23	12.72	23.66	5.99	.4011	3.64	30.09	19.90	2.04	12.34	24.80	4.70	.3865	4.34
			7.0	29.66	20.40	2.44	12.42	24.53	7.20	.3768	4.02	30.21	18.57	2.23	12.16	25.49	5.63	.3343	4.87
			8.0	29.81	19.45	2.66	12.28	25.04	8.63	.3565	4.34	30.28	17.67	2.43	12.07	25.93	6.71	.3080	5.33
			10.0	29.94	18.30	3.14	12.13	25.62	12.09	.3269	4.80	30.34	16.55	2.85	11.97	26.44	9.30	.2694	6.08
			12.0	30.01	17.65	3.64	12.07	25.93	16.32	.3075	5.13	30.37	15.90	3.29	11.93	26.73	12.45	.2437	6.64
			14.0	30.04	17.25	4.15	12.03	26.12	21.32	.2944	5.36	30.38	15.50	3.74	11.91	26.90	16.16	.2262	7.07
			16.0	30.06	16.99	4.67	12.01	26.25	27.08	.2852	5.53	30.39	15.23	4.20	11.89	27.02	20.43	.2139	7.40
			18.0	30.08	16.80	5.20	11.99	26.33	33.61	.2786	5.65	30.40	15.03	4.67	11.88	27.10	25.27	.2049	7.65
			20.0	30.09	16.67	5.74	11.98	26.39	40.91	.2737	5.75	30.41	14.90	5.14	11.88	27.16	30.68	.1982	7.85
			30.0	30.11	16.34	8.44	11.96	26.54	88.89	.2614	5.99	30.42	14.56	7.54	11.87	27.30	66.21	.1813	8.39
14	27.56	30.99	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	28.63	25.26	2.56	15.48	20.91	7.95	.3652	3.23	29.64	24.51	2.07	15.18	21.61	4.85	.3604	3.49
			7.0	29.42	23.36	2.78	14.81	22.57	9.38	.3482	3.60	30.23	22.15	2.26	14.51	23.46	5.80	.3295	4.05
			8.0	29.72	22.30	3.04	14.54	23.35	11.28	.3322	3.86	30.44	20.79	2.48	14.26	24.35	7.04	.3017	4.52
			10.0	29.98	21.10	3.60	14.31	24.16	15.96	.3087	4.29	30.55	19.90	2.72	14.13	24.90	8.48	.2791	4.91
			12.0	30.09	20.45	4.19	14.20	24.56	21.74	.2935	4.48	30.64	18.81	3.22	14.01	25.52	11.97	.2468	5.53
			14.0	30.15	20.06	4.80	14.15	24.80	28.59	.2834	4.64	30.69	18.20	3.75	13.95	25.85	16.22	.2260	5.97
			16.0	30.19	19.80	5.42	14.12	24.95	36.49	.2764	4.76	30.71	17.82	4.28	13.92	26.05	21.25	.2121	6.29
			18.0	30.21	19.62	6.04	14.09	25.06	45.45	.2714	4.85	30.73	17.57	4.83	13.90	26.18	27.05	.2024	6.53
			20.0	30.23	19.49	6.67	14.08	25.13	55.47	.2678	4.91	30.74	17.40	5.38	13.89	26.28	33.62	.1954	6.71
			30.0	30.27	19.19	9.86	14.05	25.31	121.4	.2586	5.08	30.75	17.27	5.94	13.88	26.34	40.97	.1903	6.85
												30.76	16.97	8.75	13.87	26.50	89.26	.1775	7.22
16	31.28	31.52	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	30.31	24.65	2.50	16.82	21.70	7.14	.2998	3.76
			7.0	-	-	-	-	-	-	-	-	30.68	23.17	2.75	16.42	22.95	8.68	.2765	4.18

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(p) $\epsilon_p = 30°$; $\Gamma = 10°$; $\epsilon_r = 5.84°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.08	2.51	28.61	1.08	2.51	28.61	1.08	2.50	28.62	1.08	2.50	28.62	1.08	2.50	28.63	1.07	2.49	28.64
1.10	2.19	29.21	1.09	2.19	29.21	1.09	2.19	29.21	1.09	2.19	29.22	1.09	2.18	29.22	1.09	2.18	29.22
1.12	2.09	29.46	1.11	2.09	29.46	1.11	2.09	29.46	1.11	2.09	29.46	1.10	2.09	29.47	1.10	2.09	29.47
1.14	2.05	29.60	1.13	2.05	29.60	1.13	2.05	29.61	1.13	2.05	29.61	1.12	2.05	29.61	1.12	2.05	29.61
1.16	2.02	29.70	1.15	2.02	29.70	1.15	2.02	29.70	1.15	2.02	29.70	1.14	2.02	29.71	1.14	2.02	29.71
1.18	2.01	29.77	1.18	2.01	29.77	1.17	2.01	29.77	1.17	2.01	29.77	1.16	2.01	29.77	1.16	2.01	29.78
1.23	1.99	29.86	1.22	1.99	29.86	1.22	1.99	29.86	1.21	1.99	29.86	1.20	1.99	29.86	1.20	1.99	29.87
1.27	1.99	29.92	1.27	1.98	29.92	1.26	1.98	29.92	1.26	1.98	29.92	1.25	1.98	29.92	1.24	1.98	29.93
1.32	1.98	29.96	1.32	1.98	29.96	1.31	1.98	29.96	1.30	1.98	29.96	1.29	1.98	29.96	1.29	1.98	29.97
1.38	1.98	29.99	1.37	1.98	29.99	1.36	1.98	29.99	1.35	1.98	29.99	1.34	1.98	29.99	1.33	1.98	30.00
1.43	1.98	30.01	1.42	1.98	30.01	1.41	1.98	30.01	1.40	1.98	30.02	1.39	1.98	30.02	1.38	1.97	30.02
1.48	1.97	30.03	1.47	1.97	30.03	1.46	1.97	30.03	1.45	1.97	30.03	1.44	1.97	30.04	1.43	1.97	30.04
1.78	1.97	30.08	1.76	1.97	30.08	1.74	1.97	30.08	1.72	1.97	30.09	1.70	1.97	30.09	1.68	1.97	30.09
1.18	5.21	26.40	1.18	5.19	26.44	1.17	5.16	26.47	1.17	5.14	26.51	1.16	5.12	26.55	1.16	5.10	26.58
1.20	4.39	27.89	1.20	4.38	27.90	1.19	4.37	27.91	1.19	4.37	27.93	1.18	4.36	27.94	1.18	4.36	27.96
1.24	4.18	28.43	1.23	4.17	28.44	1.23	4.17	28.45	1.22	4.17	28.46	1.22	4.16	28.47	1.21	4.16	28.48
1.29	4.09	28.73	1.28	4.08	28.74	1.27	4.08	28.75	1.26	4.08	28.76	1.26	4.08	28.77	1.25	4.07	28.78
1.33	4.04	28.92	1.33	4.04	28.93	1.32	4.03	28.94	1.31	4.03	28.95	1.30	4.03	28.96	1.29	4.03	28.97
1.38	4.01	29.06	1.37	4.01	29.07	1.36	4.01	29.08	1.36	4.01	29.09	1.35	4.00	29.10	1.34	4.00	29.11
1.49	3.98	29.24	1.48	3.98	29.25	1.47	3.98	29.26	1.45	3.98	29.27	1.44	3.98	29.28	1.43	3.97	29.29
1.60	3.97	29.36	1.59	3.96	29.37	1.57	3.96	29.38	1.56	3.96	29.39	1.54	3.96	29.40	1.53	3.96	29.40
1.72	3.96	29.44	1.70	3.96	29.45	1.68	3.96	29.45	1.66	3.95	29.46	1.65	3.95	29.47	1.63	3.95	29.48
1.84	3.95	29.49	1.82	3.95	29.50	1.80	3.95	29.51	1.78	3.95	29.52	1.76	3.95	29.53	1.73	3.95	29.54
1.97	3.95	29.53	1.94	3.95	29.54	1.92	3.95	29.55	1.89	3.95	29.56	1.87	3.95	29.57	1.84	3.95	29.58
2.10	3.95	29.56	2.07	3.95	29.57	2.04	3.95	29.58	2.01	3.95	29.59	1.98	3.94	29.60	1.96	3.94	29.61
2.78	3.94	29.65	2.74	3.94	29.66	2.69	3.94	29.67	2.65	3.94	29.68	2.60	3.94	29.69	2.56	3.94	29.70
1.32	8.73	23.02	1.30	8.51	23.33	1.29	8.35	23.56	1.28	8.21	23.75	1.27	8.10	23.92	1.25	8.00	24.07
1.31	6.61	26.50	1.31	6.59	26.54	1.30	6.58	26.58	1.29	6.56	26.61	1.28	6.54	26.65	1.27	6.53	26.69
1.38	6.26	27.39	1.37	6.25	27.42	1.36	6.24	27.45	1.35	6.23	27.47	1.34	6.23	27.50	1.33	6.22	27.53
1.45	6.12	27.86	1.44	6.11	27.89	1.43	6.11	27.91	1.41	6.10	27.94	1.40	6.10	27.96	1.39	6.09	27.99
1.53	6.05	28.16	1.51	6.04	28.19	1.50	6.04	28.21	1.49	6.03	28.24	1.47	6.03	28.26	1.46	6.03	28.28
1.61	6.01	28.37	1.59	6.00	28.39	1.58	6.00	28.42	1.56	6.00	28.44	1.55	5.99	28.46	1.53	5.99	28.49
1.78	5.97	28.64	1.76	5.96	28.66	1.74	5.96	28.69	1.72	5.96	28.71	1.70	5.95	28.73	1.68	5.95	28.75
1.97	5.95	28.80	1.95	5.94	28.82	1.92	5.94	28.85	1.90	5.94	28.87	1.87	5.94	28.89	1.85	5.93	28.92
2.17	5.93	28.91	2.13	5.93	28.93	2.10	5.93	28.96	2.07	5.93	28.98	2.04	5.93	29.00	2.01	5.92	29.03
2.37	5.93	28.98	2.33	5.93	29.01	2.30	5.92	29.03	2.26	5.92	29.06	2.22	5.92	29.08	2.19	5.92	29.10
2.57	5.92	29.04	2.53	5.92	29.06	2.49	5.92	29.09	2.45	5.92	29.11	2.41	5.92	29.14	2.37	5.92	29.16
2.78	5.92	29.08	2.74	5.92	29.10	2.69	5.92	29.13	2.65	5.92	29.15	2.60	5.92	29.18	2.56	5.91	29.20
3.89	5.92	29.18	3.82	5.91	29.21	3.74	5.91	29.23	3.67	5.91	29.26	3.60	5.91	29.29	3.53	5.91	29.31
1.44	8.90	24.96	1.43	8.86	25.05	1.41	8.82	25.14	1.40	8.78	25.23	1.39	8.74	25.31	1.38	8.71	25.39
1.52	8.36	26.31	1.51	8.34	26.37	1.49	8.32	26.43	1.48	8.30	26.48	1.47	8.28	26.54	1.45	8.27	26.60
1.62	8.16	26.97	1.61	8.15	27.03	1.59	8.13	27.08	1.57	8.12	27.13	1.56	8.11	27.18	1.54	8.10	27.23
1.74	8.06	27.38	1.72	8.05	27.43	1.70	8.04	27.48	1.68	8.03	27.53	1.66	8.03	27.58	1.64	8.02	27.62
1.85	8.01	27.66	1.83	8.00	27.71	1.81	7.99	27.76	1.79	7.99	27.80	1.76	7.98	27.85	1.74	7.97	27.89
2.11	7.95	28.01	2.08	7.95	28.06	2.05	7.94	28.10	2.02	7.94	28.15	1.99	7.93	28.19	1.96	7.93	28.24
2.37	7.93	28.21	2.33	7.92	28.26	2.30	7.92	28.31	2.26	7.91	28.35	2.23	7.91	28.40	2.19	7.91	28.44
2.65	7.91	28.34	2.60	7.91	28.39	2.56	7.91	28.44	2.52	7.90	28.49	2.47	7.90	28.53	2.43	7.90	28.58
2.93	7.91	28.43	2.88	7.90	28.48	2.83	7.90	28.53	2.78	7.90	28.58	2.73	7.89	28.62	2.68	7.89	28.67
3.22	7.90	28.50	3.16	7.90	28.55	3.11	7.89	28.59	3.05	7.89	28.64	2.99	7.89	28.69	2.93	7.89	28.74
3.52	7.90	28.55	3.45	7.89	28.59	3.39	7.89	28.64	3.32	7.89	28.69	3.26	7.89	28.74	3.19	7.88	28.78
5.04	7.89	28.66	4.94	7.89	28.71	4.84	7.89	28.76	4.74	7.88	28.81	4.64	7.88	28.86	4.54	7.88	28.91
1.58	11.34	23.10	1.56	11.24	23.31	1.54	11.15	23.51	1.52	11.06	23.69	1.50	10.99	23.85	1.48	10.92	24.01
1.68	10.49	25.13	1.66	10.45	25.24	1.64	10.41	25.35	1.62	10.38	25.46	1.60	10.35	25.56	1.58	10.32	25.66
1.81	10.21	26.03	1.79	10.19	26.12	1.77	10.17	26.21	1.74	10.14	26.30	1.72	10.12	26.39	1.70	10.11	26.47
1.96	10.09	26.56	1.93	10.07	26.64	1.91	10.05	26.73	1.88	10.04	26.81	1.85	10.02	26.89	1.83	10.01	26.97
2.12	10.02	26.90	2.08	10.00	26.99	2.05	9.99	27.07	2.02	9.98	27.15	1.99	9.96	27.23	1.96	9.95	27.31
2.44	9.95	27.33	2.41	9.94	27.41	2.37	9.93	27.49	2.33	9.92	27.57	2.29	9.91	27.65	2.25	9.90	27.72
2.79	9.92	27.57	2.74	9.91	27.65	2.70	9.90	27.73	2.65	9.89	27.81	2.60	9.88	27.89	2.55	9.88	27.97
3.15	9.90	27.73	3.09	9.89	27.81	3.04	9.88	27.89	2.98	9.88	27.97	2.92	9.87	28.04	2.87	9.87	28.12
3.52	9.89	27.83	3.45	9.88	27.91	3.39	9.88	27.99	3.32	9.87	28.07	3.26	9.87	28.15	3.19	9.86	28.22
3.89	9.88	27.90	3.82	9.88	27.98	3.74	9.87	28.06	3.67	9.87	28.14	3.59	9.86	28.22	3.52	9.86	28.30
4.27	9.88	27.95	4.19	9.87	28.04	4.10	9.87	28.12	4.02	9.86	28.20	3.94	9.86	28.28	3.85	9.85	28.35
6.21	9.87	28.08	6.08	9.86	28.17	5.95	9.86	28.25	5.82	9.86	28.33	5.70	9.85	28.41	5.57	9.85	28.49
1.76	14.38	20.14	1.72	13.97	20.89	1.68	13.70	21.41	1.65	13.50	21.82	1.62	13.34	22.17	1.60	13.20	22.47
1.85	12.68	23.78	1.82	12.60	23.99	1.79	12.54	24.18	1.77	12.48	24.36	1.74	12.42	24.54	1.72	12.37	24.70
2.01	12.29	24.97	1.98	12.25	25.14	1.95	12.21	25.29	1.92	12.17	25.44	1.89	12.14	25.58	1.87	12.11	25.72
2.19	12.13	25.64	2.16	12.10	25.79	2.12	12.07	25.93	2.09	12.04	26.06	2.06	12.02	26.19	2.03	11.99	26.32
2.39	12.04	26.07	2.35	12.01	26.21	2.31	11.99	26.34	2.27	11.97	26.47	2.23	11.95	26.59	2.20	11.93	26.72
2.80	11.95	26.58	2.75	11.93	26.71	2.70	11.92	26.84	2.65	11.90	26.96	2.60	11.89	27.08	2.55	11.87	27.20
3.23	11.91	26.86	3.17	11.90	26.99	3.11	11.88	27.12	3.05	11.87	27.24	2.99	11.86	27.36	2.93	11.85	27.47
3.67	11.89	27.04	3.60	11.88	27.16	3.53	11.87	27.29	3.46	11.86	27.41	3.39	11.85	27.53	3.32	11.84	27.65
4.12	11.88	27.15	4.04	11.87	27.28	3.95	11.86	27.40	3.87	11.85	27.53	3.79	11.84	27.65	3.72	11.83	27.76
4.57	11.87	27.23	4.48	11.86	27.36	4.39	11.85	27.48	4.30	11.84	27.61	4.21	11.83	27.73	4.12	11.83	27.84
5.04	11.87	27.29	4.93	11.86	27.42	4.83	11.85	27.54	4.73	11.84	27.66	4.63	11.83	27.78	4.53	11.83	27.90
7.38	11.85	27.43	7.22	11.84	27.56	7.07	11.84	27.68	6.91	11.83	27.81	6.76	11.82	27.93	6.60	11.82	28.04
–	–	–	–	–	–	–	–	–	1.82	16.58	18.73	1.77	15.98	19.87	1.73	15.64	20.57
2.03	14.99	22.08	1.99	14.84	22.48	1.96	14.72	22.83	1.92	14.61	23.14	1.89	14.52	23.42	1.86	14.44	23.69
2.22	14.42	23.75	2.18	14.34	24.02	2.14	14.28	24.27	2.11	14.22	24.50	2.07	14.17	24.72	2.04	14.12	24.93
2.44	14.20	24.60	2.39	14.14	24.83	2.35	14.10	25.05	2.31	14.05	25.26	2.27	14.02	25.46	2.23	13.98	25.65
2.67	14.08	25.12	2.62	14.04	25.34	2.57	14.00	25.54	2.53	13.97	25.74	2.48	13.94	25.93	2.44	13.91	26.11
3.16	13.97	25.73	3.10	13.94	25.93	3.04	13.91	26.12	2.98	13.89	26.30	2.92	13.87	26.48	2.87	13.85	26.66
3.67	13.92	26.05	3.60	13.90	26.25	3.53	13.87	26.44	3.45	13.85	26.62	3.38	13.84	26.79	3.31	13.82	26.96
4.20	13.90	26.25	4.11	13.87	26.44	4.02	13.85	26.63	3.94	13.84	26.81	3.86	13.82	26.98	3.78	13.81	27.15
4.73	13.88	26.38	4.63	13.86	26.57	4.53	13.84	26.76	4.43	13.83	26.93	4.34	13.81	27.11	4.25	13.80	27.28
5.27	13.87	26.47	5.16	13.85	26.66	5.04	13.83	26.84	4.94	13.82	27.02	4.83	13.81	27.20	4.72	13.80	27.36
5.81	13.86	26.54	5.69	13.84	26.72	5.56	13.83	26.91	5.44	13.81	27.09	5.32	13.80	27.26	5.20	13.80	27.43
8.56	13.85	26.69	8.37	13.83	26.88	8.19	13.82	27.06	8.00	13.81	27.24	7.82	13.80	27.41	7.64	13.79	27.58
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1.91	19.02	16.86
2.26	17.74	19.40	2.19	17.30	20.42	2.13	17.02	21.13	2.09	16.82	21.69	2.04	16.66	22.16	2.00	16.53	22.58
2.44	16.64	22.23	2.39	16.50	22.69	2.34	16.38	23.10	2.30	16.29	23.46	2.25	16.21	23.80	2.21	16.14	24.11
2.70	16.31	23.36	2.64	16.22	23.73	2.59	16.15	24.06	2.54	16.08	24.37	2.49	16.03	24.66	2.44	15.98	24.94

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(p) $\epsilon_p = 30°$; $\Gamma = 10°$; $\epsilon_r = 5.84°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	31.28	31.52	8.0	29.03	25.91	3.50	17.29	20.44	15.04	.3122	3.36	30.85	22.25	3.03	16.24	23.65	10.54	.2575	4.52
			10.0	29.77	24.30	4.12	16.71	22.01	20.94	.2952	3.70	31.01	21.18	3.61	16.07	24.42	15.06	.2305	5.02
			12.0	30.02	23.56	4.80	16.51	22.64	28.53	.2835	3.90	31.08	20.58	4.22	16.00	24.81	20.60	.2135	5.37
			14.0	30.14	23.13	5.50	16.41	22.99	37.58	.2757	4.03	31.12	20.22	4.84	15.96	25.05	27.15	.2023	5.62
			16.0	30.21	22.86	6.21	16.35	23.20	48.06	.2703	4.12	31.14	19.98	5.47	15.94	25.20	34.71	.1945	5.80
			18.0	30.26	22.67	6.94	16.32	23.34	59.95	.2665	4.18	31.15	19.82	6.10	15.92	25.31	43.28	.1890	5.93
			20.0	30.29	22.54	7.67	16.29	23.44	73.25	.2637	4.23	31.16	19.70	6.74	15.91	25.38	52.86	.1850	6.03
			30.0	30.37	22.22	11.35	16.23	23.68	160.8	.2568	4.35	31.19	19.42	9.97	15.89	25.56	115.9	.1750	6.29
18	34.88	32.16	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	29.77	27.92	2.81	19.71	18.50	9.04	.2722	3.41
			7.0	-	-	-	-	-	-	-	-	30.81	25.82	3.05	18.75	21.03	10.68	.2563	3.84
			8.0	-	-	-	-	-	-	-	-	31.13	24.80	3.36	18.45	22.05	12.97	.2407	4.14
			10.0	-	-	-	-	-	-	-	-	31.39	23.67	4.01	18.20	23.05	18.63	.2184	4.56
			12.0	-	-	-	-	-	-	-	-	31.50	23.07	4.70	18.09	23.55	25.63	.2044	4.84
			14.0	29.30	27.17	6.39	19.30	19.50	50.88	.2693	3.40	31.56	22.71	5.40	18.04	23.84	33.91	.1952	5.04
			16.0	29.62	26.67	7.18	19.07	20.11	64.25	.2655	3.49	31.60	22.48	6.12	18.01	24.02	43.48	.1889	5.17
			18.0	29.78	26.37	8.00	18.95	20.44	79.73	.2627	3.55	31.62	22.32	6.83	17.98	24.14	54.33	.1845	5.27
			20.0	29.89	26.18	8.82	18.88	20.65	97.14	.2606	3.60	31.64	22.20	7.56	17.97	24.23	66.46	.1813	5.35
			30.0	30.09	25.75	13.03	18.73	21.11	212.3	.2553	3.70	31.67	21.93	11.20	17.94	24.44	146.3	.1733	5.54
20	38.34	32.89	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	31.14	27.75	3.73	20.95	19.58	16.02	.2267	3.74
			10.0	-	-	-	-	-	-	-	-	31.70	26.37	4.44	20.46	21.21	22.85	.2089	4.12
			12.0	-	-	-	-	-	-	-	-	31.90	25.71	5.21	20.28	21.90	31.46	.1974	4.36
			14.0	-	-	-	-	-	-	-	-	31.99	25.33	5.99	20.20	22.28	41.70	.1899	4.52
			16.0	-	-	-	-	-	-	-	-	32.05	25.09	6.78	20.15	22.52	53.54	.1848	4.62
			18.0	-	-	-	-	-	-	-	-	32.09	24.93	7.59	20.11	22.68	66.97	.1811	4.70
			20.0	-	-	-	-	-	-	-	-	32.12	24.81	8.39	20.09	22.79	81.99	.1785	4.76
			30.0	-	-	-	-	-	-	-	-	32.17	24.53	12.46	20.04	23.04	180.8	.1720	4.91
22	41.66	33.71	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	31.32	29.87	4.98	23.31	17.64	28.78	.2003	3.64
			12.0	-	-	-	-	-	-	-	-	32.01	28.75	5.77	22.75	19.34	38.71	.1917	3.88
			14.0	-	-	-	-	-	-	-	-	32.24	28.25	6.63	22.56	20.00	51.08	.1856	4.02
			16.0	-	-	-	-	-	-	-	-	32.37	27.96	7.50	22.46	20.38	65.48	.1815	4.12
			18.0	-	-	-	-	-	-	-	-	32.44	27.76	8.38	22.39	20.62	81.86	.1785	4.19
			20.0	-	-	-	-	-	-	-	-	32.49	27.63	9.27	22.35	20.79	100.2	.1764	4.23
			30.0	-	-	-	-	-	-	-	-	32.60	27.32	13.77	22.27	21.16	220.9	.1711	4.36
24	44.83	34.62	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	33.42	30.80	15.36	25.01	17.61	275.1	.1702	3.78
26	47.85	35.61	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	50.73	36.67	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	53.46	37.80	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	56.05	38.98	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(p) $\epsilon_p = 30°$; $\Gamma = 10°$, $\epsilon_r = 5.84°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
2.97	16.16	24.01	2.90	16.09	24.34	2.85	16.03	24.65	2.79	15.98	24.94	2.73	15.94	25.21	2.68	15.90	25.47
3.54	16.01	24.74	3.46	15.96	25.03	3.39	15.92	25.32	3.32	15.88	25.58	3.25	15.85	25.84	3.18	15.83	26.08
4.13	15.95	25.12	4.04	15.91	25.40	3.95	15.87	25.68	3.87	15.84	25.94	3.78	15.82	26.18	3.70	15.80	26.42
4.73	15.92	25.35	4.63	15.88	25.63	4.53	15.85	25.89	4.43	15.82	26.15	4.33	15.80	26.39	4.24	15.78	26.63
5.35	15.90	25.49	5.23	15.86	25.77	5.11	15.83	26.03	5.00	15.81	26.29	4.89	15.79	26.53	4.78	15.78	26.76
5.97	15.88	25.60	5.83	15.85	25.87	5.70	15.82	26.13	5.58	15.80	26.38	5.45	15.78	26.62	5.33	15.77	26.86
6.59	15.87	25.67	6.44	15.84	25.94	6.30	15.82	26.20	6.16	15.80	26.45	6.02	15.78	26.69	5.88	15.77	26.92
9.75	15.85	25.84	9.52	15.83	26.11	9.31	15.80	26.37	9.09	15.78	26.61	8.88	15.77	26.85	8.67	15.76	27.09
-	-	-	-	-	-	2.35	19.76	18.38	2.27	19.20	19.76	2.21	18.89	20.64	2.16	18.66	21.32
2.70	19.09	20.05	2.62	18.78	20.96	2.55	18.56	21.66	2.50	18.40	22.25	2.44	18.27	22.76	2.39	18.17	23.21
2.97	18.53	21.77	2.90	18.36	22.38	2.83	18.23	22.91	2.77	18.13	23.37	2.71	18.05	23.79	2.65	17.98	24.18
3.27	18.30	22.64	3.20	18.18	23.16	3.12	18.08	23.62	3.06	18.00	24.04	2.99	17.94	24.42	2.93	17.89	24.78
3.92	18.09	23.55	3.83	18.01	24.00	3.74	17.94	24.40	3.66	17.89	24.78	3.58	17.84	25.14	3.50	17.81	25.47
4.59	18.01	24.01	4.48	17.94	24.43	4.38	17.88	24.82	4.28	17.84	25.18	4.19	17.80	25.52	4.09	17.77	25.85
5.28	17.96	24.28	5.15	17.90	24.68	5.03	17.85	25.06	4.92	17.81	25.41	4.81	17.78	25.75	4.70	17.76	26.07
5.97	17.94	24.45	5.83	17.88	24.85	5.70	17.83	25.22	5.56	17.80	25.57	5.44	17.77	25.90	5.31	17.75	26.22
6.67	17.92	24.57	6.51	17.86	24.96	6.36	17.82	25.33	6.22	17.79	25.67	6.07	17.76	26.00	5.93	17.74	26.32
7.38	17.91	24.65	7.20	17.85	25.04	7.03	17.81	25.40	6.87	17.78	25.75	6.71	17.76	26.08	6.55	17.74	26.39
10.93	17.88	24.85	10.67	17.83	25.23	10.42	17.80	25.59	10.17	17.77	25.93	9.93	17.75	26.25	9.70	17.73	26.56
-	-	-	-	-	-	-	-	-	-	-	-	2.39	21.34	18.47	2.32	20.88	19.78
-	-	-	2.90	21.54	17.96	2.78	20.91	19.71	2.70	20.59	20.75	2.64	20.37	21.54	2.57	20.21	22.21
3.28	21.02	19.37	3.17	20.63	20.60	3.08	20.39	21.48	3.00	20.21	22.20	2.93	20.09	22.81	2.87	19.99	23.36
3.60	20.57	20.80	3.50	20.34	21.67	3.41	20.17	22.39	3.33	20.05	23.00	3.25	19.95	23.55	3.18	19.88	24.04
4.32	20.25	22.05	4.20	20.10	22.74	4.10	19.99	23.34	4.00	19.90	23.88	3.91	19.84	24.36	3.82	19.79	24.82
5.07	20.12	22.63	4.94	20.00	23.26	4.82	19.91	23.82	4.70	19.84	24.33	4.59	19.79	24.79	4.48	19.75	25.22
5.83	20.06	22.97	5.68	19.95	23.57	5.54	19.87	24.10	5.41	19.81	24.59	5.28	19.77	25.04	5.16	19.73	25.47
6.61	20.02	23.18	6.44	19.92	23.76	6.28	19.85	24.28	6.13	19.79	24.76	5.98	19.75	25.21	5.84	19.72	25.63
7.39	19.99	23.32	7.20	19.90	23.89	7.02	19.83	24.40	6.85	19.78	24.88	6.69	19.74	25.32	6.53	19.72	25.74
8.17	19.98	23.42	7.97	19.89	23.98	7.77	19.82	24.49	7.58	19.77	24.96	7.40	19.74	25.40	7.22	19.71	25.81
12.13	19.94	23.65	11.83	19.86	24.20	11.53	19.80	24.70	11.25	19.76	25.16	10.98	19.73	25.59	10.72	19.70	26.00
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.50	23.35	17.52
-	-	-	-	-	-	-	-	-	2.93	22.98	18.59	2.84	22.55	20.04	2.76	22.29	21.06
-	-	-	3.51	23.45	17.26	3.35	22.69	19.52	3.25	22.37	20.74	3.16	22.16	21.67	3.09	22.01	22.44
4.03	23.55	16.98	3.83	22.68	19.57	3.71	22.34	20.83	3.60	22.13	21.77	3.51	21.99	22.55	3.43	21.88	23.23
4.75	22.59	19.90	4.59	22.28	21.12	4.47	22.08	22.05	4.35	21.94	22.82	4.24	21.85	23.49	4.14	21.78	24.10
5.57	22.36	20.78	5.40	22.13	21.81	5.25	21.97	22.63	5.12	21.87	23.35	4.99	21.79	23.98	4.87	21.73	24.55
6.41	22.25	21.25	6.22	22.05	22.19	6.06	21.92	22.97	5.90	21.83	23.65	5.76	21.76	24.26	5.62	21.71	24.82
7.26	22.18	21.53	7.06	22.01	22.43	6.87	21.89	23.18	6.69	21.80	23.84	6.53	21.74	24.44	6.37	21.70	24.99
8.12	22.15	21.72	7.89	21.98	22.59	7.69	21.87	23.32	7.49	21.79	23.98	7.31	21.73	24.56	7.13	21.69	25.11
8.99	22.12	21.85	8.74	21.96	22.70	8.51	21.86	23.43	8.29	21.78	24.07	8.09	21.72	24.65	7.89	21.69	25.19
13.35	22.06	22.15	12.98	21.92	22.96	12.64	21.83	23.66	12.32	21.76	24.29	12.02	21.71	24.86	11.72	21.68	25.39
-	-	-	-	-	-	-	-	-	-	-	-	3.06	24.93	17.86	2.95	24.42	19.66
-	-	-	-	-	-	-	-	-	3.51	24.68	18.71	3.40	24.28	20.27	3.31	24.05	21.39
-	-	-	-	-	-	4.03	24.73	18.51	3.89	24.29	20.21	3.78	24.05	21.38	3.68	23.90	22.32
-	-	-	5.02	24.69	18.66	4.84	24.26	20.38	4.70	24.02	21.55	4.58	23.87	22.50	4.46	23.77	23.31
6.18	25.11	17.29	5.89	24.39	19.79	5.70	24.10	21.15	5.54	23.92	22.19	5.40	23.80	23.05	5.26	23.72	23.81
7.06	24.74	18.47	6.79	24.26	20.35	6.58	24.02	21.58	6.40	23.86	22.55	6.23	23.76	23.37	6.07	23.69	24.10
7.98	24.59	19.02	7.69	24.19	20.68	7.46	23.97	21.84	7.26	23.83	22.77	7.07	23.74	23.58	6.90	23.68	24.29
8.92	24.50	19.35	8.61	24.15	20.90	8.35	23.94	22.01	8.13	23.81	22.93	7.92	23.73	23.72	7.72	23.67	24.42
9.87	24.45	19.56	9.53	24.12	21.05	9.25	23.92	22.14	9.00	23.80	23.03	8.77	23.72	23.81	8.55	23.66	24.51
14.65	24.33	20.04	14.17	24.05	21.39	13.76	23.88	22.42	13.39	23.77	23.29	13.05	23.70	24.04	12.72	23.65	24.73
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.16	26.70	17.74
-	-	-	-	-	-	-	-	-	-	-	-	3.65	26.53	18.36	3.53	26.13	20.14
-	-	-	-	-	-	-	-	-	4.20	26.66	17.88	4.05	26.17	19.92	3.93	25.93	21.27
-	-	-	-	-	-	5.26	26.70	17.73	5.06	26.17	19.93	4.91	25.92	21.32	4.78	25.77	22.42
-	-	-	-	-	-	6.17	26.36	19.08	5.97	26.01	20.76	5.80	25.82	21.98	5.65	25.71	22.99
-	-	-	7.45	26.91	17.00	7.12	26.22	19.71	6.89	25.94	21.21	6.70	25.78	22.36	6.53	25.68	23.31
-	-	-	8.41	26.68	17.82	8.08	26.14	20.08	7.83	25.89	21.49	7.61	25.75	22.59	7.41	25.66	23.52
-	-	-	9.40	26.56	18.26	9.04	26.09	20.32	8.77	25.87	21.67	8.53	25.73	22.75	8.31	25.65	23.67
-	-	-	10.39	26.49	18.54	10.01	26.06	20.48	9.71	25.85	21.80	9.44	25.72	22.86	9.20	25.64	23.77
-	-	-	15.43	26.35	19.12	14.89	26.00	20.85	14.46	25.81	22.10	14.06	25.69	23.12	13.70	25.63	24.00
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.76	28.28	18.54
-	-	-	-	-	-	-	-	-	-	-	-	4.34	28.43	17.88	4.19	27.99	20.02
-	-	-	-	-	-	-	-	-	5.45	28.53	17.45	5.25	28.02	19.86	5.10	27.78	21.40
-	-	-	-	-	-	-	-	-	6.41	28.22	18.81	6.20	27.88	20.69	6.03	27.71	22.05
-	-	-	-	-	-	7.76	28.88	16.18	7.40	28.09	19.46	7.17	27.82	21.15	6.97	27.67	22.43
-	-	-	-	-	-	8.76	28.60	17.18	8.40	28.02	19.84	8.15	27.78	21.43	7.93	27.65	22.66
-	-	-	-	-	-	9.79	28.48	17.67	9.41	27.98	20.08	9.13	27.76	21.62	8.88	27.64	22.82
-	-	-	-	-	-	10.83	28.41	17.98	10.43	27.95	20.25	10.12	27.74	21.75	9.84	27.63	22.94
-	-	-	-	-	-	16.09	28.26	18.61	15.53	27.89	20.63	15.08	27.71	22.05	14.67	27.61	23.20
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.01	30.66	16.03
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.45	30.12	18.42
-	-	-	-	-	-	-	-	-	-	-	-	5.60	30.23	17.85	5.41	29.82	20.19
-	-	-	-	-	-	-	-	-	-	-	-	6.61	30.00	19.04	6.41	29.72	20.98
-	-	-	-	-	-	-	-	-	7.97	30.52	16.58	7.65	29.90	19.64	7.42	29.67	21.41
-	-	-	-	-	-	-	-	-	9.02	30.34	17.34	8.69	29.85	20.00	8.43	29.65	21.69
-	-	-	-	-	-	-	-	-	10.10	30.25	17.77	9.74	29.82	20.24	9.46	29.63	21.87
-	-	-	-	-	-	-	-	-	11.18	30.19	18.05	10.79	29.79	20.40	10.48	29.62	22.00
-	-	-	-	-	-	-	-	-	16.63	30.08	18.64	16.08	29.75	20.77	15.63	29.59	22.29
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.73	32.44	15.97
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.73	31.91	18.68
-	-	-	-	-	-	-	-	-	-	-	-	7.05	32.32	16.51	6.79	31.76	19.68
-	-	-	-	-	-	-	-	-	-	-	-	8.14	32.11	17.54	7.86	31.70	20.22
-	-	-	-	-	-	-	-	-	-	-	-	9.24	32.01	18.09	8.94	31.66	20.54
-	-	-	-	-	-	-	-	-	-	-	-	10.35	31.95	18.42	10.02	31.64	20.76
-	-	-	-	-	-	-	-	-	-	-	-	11.47	31.91	18.65	11.11	31.62	20.91
-	-	-	-	-	-	-	-	-	-	-	-	17.09	31.84	19.15	16.57	31.59	21.26

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(p) $\epsilon_p = 30°$; $\Gamma = 10°$; $\epsilon_r = 5.84°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
34	58.52	40.22	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	60.85	41.51	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	63.07	42.85	16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(P) $\epsilon_p = 30^\circ$; $\Gamma = 10^\circ$; $\epsilon_r = 5.84^\circ$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.06	34.11	16.55
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.17	33.86	18.03
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.30	33.76	18.74
-	-	-	-	-	-	-	-	-	-	-	-	9.90	34.67	14.01	9.44	33.70	19.16
-	-	-	-	-	-	-	-	-	-	-	-	11.03	34.37	15.28	10.58	33.67	19.43
-	-	-	-	-	-	-	-	-	-	-	-	12.20	34.25	15.83	11.73	33.65	19.61
-	-	-	-	-	-	-	-	-	-	-	-	18.15	34.07	16.78	17.50	33.61	20.03
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.57	36.11	15.50
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.74	35.90	16.71
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.94	35.81	17.33
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.14	35.76	17.71
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.35	35.72	17.96
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.43	35.65	18.51
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.49	38.19	14.05
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.74	38.01	14.99
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.00	37.93	15.49
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19.37	37.78	16.42

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(a) $\epsilon_p = 30°$; $\Gamma = 20°$; $\epsilon_r = 12.13°$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$							$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	3.60	31.51	3.0	31.40	21.31	1.09	2.34	30.08	1.24	.8814	2.83	31.44	21.10	1.08	2.32	30.10	1.19	.8812	2.88
			4.0	31.48	16.03	1.10	2.07	30.59	1.27	.8651	3.77	31.49	15.86	1.09	2.07	30.60	1.23	.8642	3.85
			5.0	31.49	13.00	1.12	1.99	30.81	1.33	.8429	4.68	31.50	12.84	1.11	1.98	30.82	1.27	.8413	4.79
			6.0	31.50	11.03	1.15	1.95	30.94	1.40	.8198	5.57	31.50	10.87	1.13	1.95	30.95	1.33	.8176	5.73
			7.0	31.50	9.63	1.17	1.93	31.03	1.47	.7970	6.44	31.51	9.48	1.15	1.93	31.04	1.38	.7940	6.65
			8.0	31.50	8.60	1.20	1.92	31.09	1.54	.7748	7.30	31.51	8.44	1.17	1.91	31.10	1.44	.7710	7.55
			10.0	31.50	7.16	1.25	1.90	31.17	1.69	.7328	8.94	31.51	7.00	1.22	1.90	31.18	1.57	.7270	9.33
			12.0	31.50	6.22	1.30	1.89	31.23	1.86	.6941	10.52	31.51	6.06	1.27	1.89	31.24	1.70	.6862	11.06
			14.0	31.50	5.56	1.36	1.89	31.26	2.05	.6587	12.02	1.51	5.39	1.32	1.89	31.27	1.85	.6485	12.74
			16.0	31.50	5.06	1.41	1.89	31.29	2.24	.6264	13.46	1.51	4.90	1.37	1.89	31.30	2.01	.6137	14.38
			18.0	31.50	4.69	1.47	1.89	31.31	2.46	.5970	14.83	1.51	4.51	1.42	1.88	31.32	2.18	.5818	15.97
			20.0	31.50	4.39	1.53	1.88	31.33	2.68	.5702	16.14	1.51	4.21	1.47	1.88	31.34	2.35	.5524	17.51
			30.0	31.50	3.54	1.85	1.88	31.37	4.05	.4687	21.74	1.51	3.35	1.75	1.88	31.38	3.42	.4380	24.49
4	7.32	30.98	3.0	30.41	23.52	1.20	4.91	27.61	1.54	.7735	2.66	30.62	22.98	1.17	4.81	27.78	1.43	.7740	2.76
			4.0	30.82	17.76	1.22	4.18	28.95	1.61	.7542	3.56	30.89	17.37	1.19	4.15	29.02	1.50	.7510	3.70
			5.0	30.89	14.64	1.26	3.99	29.45	1.75	.7201	4.39	30.93	14.28	1.23	3.97	29.50	1.61	.7147	4.60
			6.0	30.91	12.64	1.31	3.90	29.72	1.91	.6854	5.18	30.95	12.29	1.28	3.89	29.77	1.74	.6777	5.46
			7.0	30.93	11.25	1.37	3.86	29.90	2.08	.6523	5.94	30.96	10.90	1.32	3.85	29.95	1.88	.6423	6.31
			8.0	30.93	10.24	1.42	3.83	30.03	2.28	.6216	6.66	30.96	9.88	1.37	3.82	30.08	2.03	.6091	7.13
			10.0	30.94	8.85	1.54	3.80	30.20	2.71	.5673	8.00	30.97	8.48	1.48	3.80	30.24	2.37	.5497	8.69
			12.0	30.94	7.96	1.66	3.79	30.30	3.21	.5219	9.21	30.97	7.58	1.58	3.78	30.35	2.76	.4990	10.16
			14.0	30.95	7.36	1.79	3.78	30.37	3.77	.4841	10.30	30.97	6.96	1.70	3.78	30.42	3.19	.4560	11.53
			16.0	30.95	6.92	1.93	3.77	30.42	4.40	.4526	11.28	30.97	6.51	1.82	3.77	30.47	3.68	.4196	12.81
			18.0	30.95	6.59	2.07	3.77	30.46	5.09	.4263	12.15	30.97	6.18	1.94	3.77	30.51	4.21	.3888	14.00
			20.0	30.95	6.34	2.21	3.77	30.49	5.86	.4044	12.93	30.97	5.92	2.06	3.77	30.54	4.80	.3626	15.10
			30.0	30.95	5.68	2.97	3.76	30.56	10.77	.3360	15.70	30.97	5.22	2.73	3.76	30.61	8.52	.2785	19.40
6	11.14	30.56	3.0	-	-	-	-	-	-	-	-	29.35	25.46	1.29	7.83	24.65	1.77	.6675	2.61
			4.0	30.13	19.71	1.35	6.36	27.13	2.03	.6623	3.34	30.32	19.03	1.30	6.27	27.33	1.82	.6564	3.55
			5.0	30.32	16.46	1.42	6.01	28.00	2.26	.6242	4.11	30.44	15.85	1.37	5.96	28.14	2.01	.6138	4.40
			6.0	30.39	14.44	1.50	5.87	28.45	2.55	.5854	4.81	30.48	13.86	1.44	5.84	28.58	2.24	.5709	5.20
			7.0	30.42	13.07	1.58	5.80	28.73	2.88	.5498	5.46	30.50	12.47	1.51	5.77	28.85	2.50	.5313	5.97
			8.0	30.44	12.08	1.67	5.75	28.93	3.26	.5181	6.06	30.51	11.48	1.59	5.73	29.05	2.79	.4955	6.70
			10.0	30.46	10.77	1.87	5.71	29.18	4.12	.4655	7.12	30.52	10.15	1.76	5.69	29.30	3.45	.4352	8.05
			12.0	30.47	9.95	2.07	5.69	29.33	5.13	.4251	8.03	30.53	9.31	1.94	5.67	29.45	4.23	.3878	9.26
			14.0	30.47	9.41	2.29	5.68	29.43	6.30	.3939	8.78	30.53	8.75	2.13	5.66	29.55	5.12	.3504	10.34
			16.0	30.48	9.03	2.51	5.67	29.50	7.64	.3697	9.42	30.53	8.35	2.32	5.66	29.62	6.14	.3209	11.29
			18.0	30.48	8.75	2.74	5.66	29.55	9.14	.3507	9.95	30.53	8.07	2.53	5.65	29.67	7.27	.2973	12.13
			20.0	30.48	8.55	2.97	5.66	29.58	10.80	.3357	10.40	30.53	7.85	2.73	5.65	29.71	8.53	.2784	12.86
			30.0	30.48	8.02	4.19	5.65	29.68	21.67	.2937	11.78	30.53	7.29	3.80	5.64	29.80	16.72	.2242	15.37
8	15.04	30.26	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			4.0	29.29	22.02	1.50	8.73	24.93	2.56	.5839	3.11	29.75	20.89	1.43	8.48	25.45	2.21	.5765	3.39
			5.0	29.77	18.49	1.59	8.09	26.38	2.90	.5488	3.82	30.02	17.55	1.51	7.98	26.70	2.49	.5332	4.20
			6.0	29.92	16.44	1.70	7.87	27.06	3.35	.5108	4.45	30.10	15.54	1.61	7.79	27.33	2.85	.4893	4.94
			7.0	29.98	15.08	1.82	7.76	27.47	3.90	.4769	5.00	30.14	14.19	1.72	7.70	27.72	3.27	.4499	5.63
			8.0	30.02	14.12	1.95	7.69	27.74	4.51	.4476	5.49	30.16	13.22	1.83	7.65	27.98	3.74	.4156	6.28
			10.0	30.06	12.88	2.23	7.63	28.07	5.96	.4018	6.33	30.18	11.96	2.07	7.59	28.31	4.84	.3607	7.42
			12.0	30.08	12.13	2.52	7.60	28.27	7.70	.3688	6.98	30.19	11.19	2.33	7.57	28.51	6.16	.3203	8.40
			14.0	30.09	11.64	2.83	7.58	28.39	9.74	.3447	7.50	30.19	10.69	2.60	7.55	28.63	7.70	.2903	9.22
			16.0	30.09	11.31	3.14	7.57	28.48	12.07	.3270	7.91	30.20	10.34	2.87	7.54	28.72	9.46	.2677	9.90
			18.0	30.10	11.08	3.46	7.56	28.54	14.71	.3136	8.24	30.20	10.09	3.15	7.54	28.78	11.44	.2504	10.48
			20.0	30.10	10.90	3.78	7.56	28.58	17.65	.3033	8.50	30.20	9.91	3.44	7.54	28.82	13.65	.2370	10.96
			30.0	30.11	10.47	5.45	7.55	28.69	36.92	.2761	9.25	30.20	9.44	4.92	7.53	28.94	28.10	.2011	12.46
10	19.01	30.07	4.0	27.49	25.50	1.72	11.99	21.21	3.46	.5036	2.81	29.05	23.05	1.57	10.89	23.16	2.69	.5065	3.22
			5.0	29.15	20.81	1.78	10.30	24.46	3.70	.4883	3.54	29.64	19.41	1.66	10.04	25.13	3.06	.4684	4.00
			6.0	29.46	18.64	1.92	9.92	25.47	4.35	.4545	4.09	29.80	17.36	1.79	9.77	26.00	3.57	.4266	4.68
			7.0	29.59	17.27	2.08	9.76	26.04	5.15	.4243	4.56	29.86	16.03	1.93	9.64	26.51	4.19	.3898	5.30
			8.0	29.66	16.33	2.25	9.67	26.40	6.08	.3989	4.96	29.90	15.09	2.08	9.57	26.85	4.90	.3587	5.86
			10.0	29.73	15.15	2.61	9.57	26.83	8.29	.3606	5.61	29.94	13.90	2.40	9.50	27.26	6.57	.3110	6.81
			12.0	29.76	14.46	3.00	9.53	27.07	10.98	.3344	6.09	29.95	13.19	2.74	9.47	27.50	8.58	.2778	7.58
			14.0	29.78	14.02	3.39	9.50	27.22	14.13	.3161	6.45	29.96	12.74	3.09	9.45	27.65	10.95	.2541	8.20
			16.0	29.79	13.72	3.79	9.49	27.32	17.76	.3030	6.72	29.97	12.43	3.44	9.44	27.75	13.67	.2370	8.70
			18.0	29.80	13.51	4.21	9.48	27.39	21.87	.2933	6.93	29.97	12.21	3.81	9.43	27.82	16.74	.2242	9.09
			20.0	29.80	13.36	4.62	9.47	27.45	26.46	.2860	7.09	29.97	12.05	4.17	9.43	27.87	20.17	.2145	9.41
			30.0	29.81	12.99	6.74	9.46	27.57	56.61	.2674	7.53	29.98	11.65	6.06	9.42	28.00	42.67	.1894	10.34
12	23.00	30.00	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	28.14	23.73	2.01	12.88	21.71	4.81	.4360	3.22	29.26	21.47	1.83	12.19	23.30	3.74	.4155	3.78
			6.0	28.92	21.14	2.16	12.12	23.50	5.61	.4108	3.73	29.55	19.33	1.99	11.78	24.52	4.44	.3779	4.41
			7.0	29.18	19.70	2.36	11.84	24.33	6.71	.3855	4.14	29.67	18.00	2.16	11.60	25.19	5.29	.3448	4.96
			8.0	29.31	18.74	2.57	11.70	24.82	8.02	.3643	4.47	29.73	17.08	2.35	11.51	25.61	6.28	.3175	5.44
			10.0	29.44	17.58	3.02	11.56	25.38	11.17	.3330	4.97	29.79	15.94	2.75	11.42	26.12	8.64	.2771	6.23
			12.0	29.49	16.93	3.49	11.50	25.69	15.02	.3123	5.33	29.82	15.28	3.16	11.38	26.40	11.51	.2500	6.84
			14.0	29.53	16.51	3.98	11.46	25.87	19.56	.2982	5.58	29.83	14.87	3.59	11.35	26.58	14.89	.2313	7.31
			16.0	29.55	16.24	4.47	11.44	25.99	24.80	.2883	5.76	29.84	14.59	4.03	11.34	26.69	18.78	.2180	7.67
			18.0	29.56	16.05	4.98	11.43	26.08	30.73	.2812	5.90	29.85	14.39	4.47	11.33	26.77	23.18	.2083	7.95
			20.0	29.57	15.91	5.48	11.42	26.13	37.36	.2758	6.01	29.85	14.25	4.92	11.33	26.83	28.10	.2011	8.17
			30.0	29.59	15.58	8.06	11.39	26.28	80.96	.2625	6.29	29.86	13.90	7.21	11.31	26.97	60.44	.1827	8.77
14	27.00	30.05	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			5.0	-	-	-	-	-	-	-	-	28.72	23.88	2.02	14.57	20.91	4.61	.3701	3.55
			6.0	27.85	24.37	2.48	14.77	20.46	7.41	.3732	3.33	29.33	21.48	2.20	13.87	22.78	5.46	.3393	4.14
			7.0	28.59	22.49	2.68	14.12	22.05	8.72	.3554	3.71	29.53	20.10	2.41	13.61	23.68	6.58	.3107	4.63
			8.0	28.88	21.44	2.92	13.86	22.81	10.44	.3386	4.00	29.64	19.19	2.63	13.48	24.22	7.90	.2872	5.04
			10.0	29.12	20.23	3.46	13.63	23.60	14.70	.3136	4.40	29.73	18.08	3.10	13.36	24.84	11.07	.2592	5.70
			12.0	29.23	19.57	4.02	13.53	24.00	19.95	.2973	4.67	29.78	17.46	3.60	13.30	25.18	14.95	.2310	6.18
			14.0	29.29	19.16	4.60	13.48	24.24	26.17	.2864	4.85	29.80	17.07	4.11	13.27	25.38	19.53	.2160	6.53
			16.0	29.33	18.90	5.18	13.45	24.39	33.35	.2788	4.99	29.81	16.81	4.63	13.25	25.52	24.81	.2056	6.79
			18.0	29.35	18.72	5.78	13.43	24.49	41.49	.2734	5.08	29.82	16.63	5.15	13.24	25.61	30.79	.1981	7.00
			20.0	29.36	18.59	6.37	13.41	24.57	50.58	.2694	5.16	29.83	16.50	5.68	13.24	25.67	37.47	.1925	7.15
			30.0	29.40	18.27	9.41	13.38	24.74	110.4	.2594	5.34	29.85	16.18	8.36	13.22	25.83	81.41	.1786	7.57
16	30.97	30.23	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	28.99	23.91	2.43	16.15	20.52	6.73	.3075	3.85
			7.0	-	-	-	-	-	-	-	-	29.40	22.38	2.67	15.71	21.86	8.12	.2840	4.29

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(q) $\epsilon_p = 30°$; $\Gamma = 20°$; $\epsilon_r = 12.13°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.08	2.32	30.11	1.08	2.32	30.11	1.07	2.31	30.11	1.07	2.31	30.12	1.07	2.31	30.12	1.07	2.31	30.13
1.09	2.06	30.61	1.09	2.06	30.61	1.09	2.06	30.61	1.08	2.06	30.61	1.08	2.06	30.62	1.08	2.06	30.62
1.11	1.98	30.83	1.11	1.98	30.83	1.10	1.98	30.83	1.10	1.98	30.83	1.10	1.98	30.83	1.10	1.98	30.84
1.13	1.95	30.95	1.13	1.95	30.96	1.12	1.95	30.96	1.12	1.95	30.96	1.12	1.94	30.96	1.11	1.94	30.96
1.15	1.93	31.04	1.15	1.93	31.04	1.14	1.93	31.04	1.14	1.93	31.04	1.14	1.92	31.05	1.13	1.92	31.05
1.17	1.91	31.10	1.17	1.91	31.10	1.16	1.91	31.10	1.16	1.91	31.11	1.15	1.91	31.11	1.15	1.91	31.11
1.21	1.90	31.18	1.21	1.90	31.19	1.20	1.90	31.19	1.20	1.90	31.19	1.19	1.90	31.19	1.19	1.90	31.19
1.26	1.89	31.24	1.25	1.89	31.24	1.25	1.89	31.24	1.24	1.89	31.24	1.24	1.89	31.24	1.23	1.89	31.24
1.31	1.89	31.27	1.30	1.89	31.28	1.29	1.89	31.28	1.29	1.89	31.28	1.28	1.89	31.28	1.27	1.89	31.28
1.36	1.89	31.30	1.35	1.89	31.30	1.34	1.89	31.30	1.33	1.89	31.31	1.32	1.89	31.31	1.31	1.89	31.31
1.41	1.88	31.32	1.40	1.88	31.32	1.39	1.88	31.33	1.38	1.88	31.33	1.37	1.88	31.33	1.36	1.88	31.33
1.46	1.88	31.34	1.45	1.88	31.34	1.44	1.88	31.34	1.43	1.88	31.34	1.41	1.88	31.35	1.40	1.88	31.35
1.73	1.88	31.39	1.72	1.88	31.39	1.70	1.88	31.39	1.68	1.88	31.39	1.66	1.88	31.39	1.64	1.88	31.39
1.17	4.79	27.80	1.16	4.77	27.83	1.16	4.76	27.86	1.15	4.74	27.88	1.15	4.73	27.91	1.15	4.71	27.93
1.19	4.14	29.03	1.18	4.14	29.04	1.18	4.13	29.05	1.18	4.13	29.06	1.17	4.13	29.07	1.17	4.12	29.09
1.23	3.97	29.51	1.22	3.96	29.52	1.22	3.96	29.53	1.21	3.96	29.54	1.21	3.95	29.54	1.20	3.95	29.55
1.27	3.89	29.78	1.26	3.89	29.79	1.26	3.88	29.80	1.25	3.88	29.80	1.24	3.88	29.81	1.24	3.88	29.82
1.32	3.85	29.96	1.31	3.84	29.97	1.30	3.84	29.97	1.29	3.84	29.98	1.29	3.84	29.99	1.28	3.84	30.00
1.36	3.82	30.08	1.35	3.82	30.09	1.35	3.82	30.10	1.34	3.82	30.11	1.33	3.82	30.11	1.32	3.81	30.12
1.46	3.80	30.25	1.45	3.79	30.26	1.44	3.79	30.27	1.43	3.79	30.27	1.42	3.79	30.28	1.41	3.79	30.29
1.57	3.78	30.35	1.55	3.78	30.36	1.54	3.78	30.37	1.53	3.78	30.38	1.51	3.78	30.39	1.50	3.78	30.39
1.68	3.77	30.43	1.66	3.77	30.43	1.65	3.77	30.44	1.63	3.77	30.45	1.61	3.77	30.46	1.59	3.77	30.47
1.79	3.77	30.48	1.77	3.77	30.49	1.75	3.77	30.49	1.73	3.77	30.50	1.71	3.77	30.51	1.69	3.77	30.52
1.91	3.77	30.52	1.89	3.77	30.52	1.87	3.77	30.53	1.84	3.77	30.54	1.82	3.77	30.55	1.80	3.76	30.56
2.04	3.77	30.55	2.01	3.77	30.55	1.98	3.76	30.56	1.96	3.76	30.57	1.93	3.76	30.58	1.90	3.76	30.59
2.69	3.76	30.62	2.64	3.76	30.63	2.60	3.76	30.64	2.56	3.76	30.65	2.51	3.76	30.66	2.47	3.76	30.67
1.28	7.73	24.80	1.27	7.64	24.93	1.26	7.55	25.05	1.25	7.48	25.16	1.24	7.42	25.26	1.23	7.36	25.35
1.30	6.26	27.36	1.29	6.24	27.40	1.28	6.23	27.43	1.27	6.22	27.46	1.27	6.20	27.49	1.26	6.19	27.52
1.36	5.96	28.16	1.35	5.95	28.19	1.34	5.94	28.21	1.33	5.93	28.24	1.32	5.92	28.26	1.31	5.92	28.28
1.42	5.83	28.60	1.41	5.82	28.62	1.40	5.82	28.64	1.39	5.81	28.66	1.38	5.81	28.68	1.37	5.80	28.71
1.50	5.77	28.87	1.49	5.76	28.90	1.47	5.76	28.92	1.46	5.75	28.94	1.45	5.75	28.96	1.44	5.75	28.98
1.58	5.73	29.07	1.56	5.72	29.09	1.55	5.72	29.11	1.53	5.72	29.13	1.52	5.71	29.15	1.50	5.71	29.17
1.74	5.69	29.32	1.72	5.69	29.34	1.70	5.68	29.36	1.69	5.68	29.38	1.67	5.68	29.40	1.65	5.68	29.42
1.92	5.67	29.47	1.89	5.67	29.49	1.87	5.67	29.51	1.85	5.66	29.53	1.82	5.66	29.55	1.80	5.66	29.57
2.10	5.66	29.57	2.07	5.66	29.59	2.04	5.66	29.61	2.02	5.66	29.63	1.99	5.65	29.65	1.96	5.65	29.67
2.29	5.65	29.64	2.26	5.65	29.66	2.22	5.65	29.68	2.19	5.65	29.70	2.16	5.65	29.72	2.12	5.65	29.74
2.49	5.65	29.69	2.45	5.65	29.71	2.41	5.65	29.73	2.37	5.65	29.76	2.33	5.65	29.78	2.30	5.64	29.80
2.69	5.65	29.73	2.64	5.65	29.75	2.60	5.65	29.77	2.56	5.64	29.79	2.51	5.64	29.82	2.47	5.64	29.84
3.74	5.64	29.83	3.67	5.64	29.85	3.60	5.64	29.87	3.53	5.64	29.90	3.46	5.64	29.92	3.39	5.64	29.94
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.37	11.29	20.95
1.41	8.44	25.53	1.40	8.41	25.61	1.39	8.37	25.69	1.38	8.34	25.76	1.37	8.31	25.83	1.36	8.29	25.90
1.49	7.96	26.76	1.48	7.94	26.81	1.47	7.93	26.86	1.45	7.91	26.91	1.44	7.90	26.96	1.43	7.88	27.01
1.59	7.78	27.38	1.58	7.77	27.43	1.56	7.76	27.47	1.54	7.75	27.51	1.53	7.73	27.56	1.51	7.72	27.60
1.70	7.69	27.76	1.68	7.68	27.81	1.66	7.67	27.85	1.64	7.66	27.89	1.62	7.66	27.93	1.61	7.65	27.97
1.81	7.64	28.02	1.79	7.63	28.07	1.77	7.62	28.11	1.74	7.62	28.15	1.72	7.61	28.19	1.70	7.60	28.23
2.04	7.59	28.35	2.02	7.58	28.40	1.99	7.58	28.44	1.96	7.57	28.48	1.93	7.57	28.52	1.91	7.56	28.55
2.29	7.56	28.55	2.26	7.56	28.59	2.23	7.55	28.63	2.19	7.55	28.67	2.16	7.55	28.71	2.13	7.54	28.75
2.56	7.55	28.68	2.51	7.54	28.72	2.47	7.54	28.76	2.43	7.54	28.80	2.39	7.53	28.84	2.35	7.53	28.88
2.82	7.54	28.76	2.78	7.54	28.80	2.73	7.53	28.85	2.68	7.53	28.89	2.63	7.53	28.93	2.59	7.53	28.97
3.10	7.54	28.82	3.04	7.53	28.87	2.99	7.53	28.91	2.94	7.53	28.95	2.88	7.53	28.99	2.83	7.52	29.03
3.38	7.53	28.87	3.32	7.53	28.91	3.26	7.53	28.95	3.20	7.53	29.00	3.13	7.52	29.04	3.07	7.52	29.08
4.83	7.53	28.98	4.73	7.52	29.03	4.63	7.52	29.07	4.54	7.52	29.11	4.45	7.52	29.16	4.35	7.52	29.20
1.55	10.79	23.36	1.53	10.70	23.54	1.51	10.62	23.71	1.49	10.55	23.87	1.48	10.49	24.01	1.46	10.43	24.14
1.64	10.00	25.24	1.62	9.97	25.34	1.61	9.94	25.44	1.59	9.91	25.53	1.57	9.88	25.62	1.55	9.85	25.71
1.77	9.74	26.09	1.75	9.72	26.17	1.73	9.70	26.25	1.70	9.68	26.33	1.68	9.66	26.41	1.66	9.65	26.49
1.91	9.62	26.59	1.88	9.61	26.67	1.86	9.59	26.75	1.83	9.57	26.82	1.81	9.56	26.89	1.78	9.55	26.96
2.05	9.55	26.93	2.02	9.54	27.00	2.00	9.53	27.08	1.97	9.52	27.15	1.94	9.51	27.22	1.91	9.50	27.29
2.36	9.49	27.34	2.33	9.48	27.41	2.29	9.47	27.48	2.25	9.46	27.55	2.22	9.45	27.62	2.18	9.44	27.69
2.69	9.46	27.57	2.65	9.45	27.65	2.60	9.44	27.72	2.56	9.43	27.79	2.51	9.43	27.86	2.47	9.42	27.93
3.03	9.44	27.72	2.98	9.43	27.80	2.92	9.43	27.87	2.87	9.42	27.94	2.82	9.42	28.01	2.77	9.41	28.08
3.38	9.43	27.82	3.32	9.42	27.90	3.26	9.42	27.97	3.19	9.41	28.04	3.13	9.41	28.11	3.07	9.41	28.18
3.73	9.42	27.90	3.66	9.42	27.97	3.59	9.41	28.04	3.52	9.41	28.11	3.45	9.41	28.18	3.38	9.40	28.25
4.09	9.42	27.95	4.01	9.42	28.02	3.94	9.41	28.09	3.86	9.41	28.17	3.78	9.40	28.24	3.70	9.40	28.31
5.94	9.41	28.07	5.81	9.41	28.15	5.69	9.40	28.22	5.57	9.40	28.30	5.45	9.40	28.37	5.33	9.39	28.44
1.72	13.75	20.05	1.68	13.39	20.71	1.65	13.14	21.18	1.62	12.95	21.56	1.60	12.80	21.88	1.57	12.67	22.16
1.80	12.11	23.51	1.78	12.05	23.70	1.75	11.98	23.88	1.73	11.93	24.04	1.70	11.88	24.20	1.68	11.83	24.35
1.96	11.74	24.67	1.93	11.70	24.82	1.90	11.66	24.96	1.87	11.63	25.10	1.85	11.60	25.23	1.82	11.57	25.35
2.13	11.57	25.33	2.10	11.54	25.46	2.06	11.52	25.58	2.03	11.49	25.71	2.00	11.47	25.83	1.97	11.45	25.94
2.31	11.49	25.74	2.27	11.46	25.87	2.24	11.44	25.99	2.20	11.42	26.11	2.17	11.40	26.22	2.13	11.39	26.33
2.70	11.40	26.24	2.65	11.38	26.36	2.61	11.37	26.48	2.56	11.35	26.59	2.51	11.34	26.70	2.47	11.33	26.81
3.11	11.36	26.52	3.05	11.35	26.64	2.99	11.33	26.76	2.94	11.32	26.87	2.88	11.31	26.98	2.83	11.30	27.08
3.52	11.34	26.70	3.46	11.33	26.81	3.39	11.32	26.93	3.32	11.31	27.04	3.26	11.30	27.15	3.19	11.29	27.26
3.95	11.33	26.81	3.87	11.32	26.93	3.80	11.31	27.04	3.72	11.30	27.15	3.64	11.29	27.26	3.57	11.28	27.37
4.38	11.32	26.89	4.30	11.31	27.01	4.21	11.30	27.12	4.12	11.29	27.23	4.04	11.28	27.34	3.95	11.28	27.45
4.82	11.31	26.95	4.72	11.30	27.07	4.63	11.30	27.18	4.53	11.29	27.29	4.43	11.28	27.40	4.34	11.28	27.51
7.06	11.30	27.09	6.91	11.29	27.21	6.76	11.29	27.32	6.61	11.28	27.43	6.46	11.28	27.54	6.32	11.27	27.65
-	-	-	-	-	-	-	-	-	-	-	-	1.75	15.61	18.78	1.70	15.19	19.59
1.98	14.39	21.36	1.94	14.24	21.74	1.91	14.11	22.08	1.88	14.01	22.38	1.85	13.92	22.65	1.82	13.84	22.90
2.16	13.79	23.06	2.12	13.71	23.31	2.08	13.65	23.54	2.05	13.59	23.76	2.02	13.54	23.97	1.98	13.50	24.16
2.36	13.56	23.91	2.32	13.51	24.12	2.28	13.46	24.33	2.24	13.42	24.52	2.20	13.38	24.71	2.16	13.35	24.88
2.58	13.44	24.43	2.53	13.40	24.63	2.49	13.36	24.82	2.44	13.33	25.00	2.40	13.30	25.18	2.36	13.28	25.35
3.04	13.33	25.04	2.99	13.30	25.22	2.93	13.27	25.40	2.87	13.25	25.57	2.82	13.23	25.74	2.76	13.21	25.90
3.53	13.28	25.37	3.46	13.25	25.55	3.39	13.23	25.72	3.32	13.21	25.89	3.25	13.20	26.05	3.19	13.18	26.21
4.03	13.25	25.57	3.94	13.23	25.75	3.86	13.21	25.92	3.78	13.19	26.08	3.70	13.18	26.25	3.63	13.17	26.40
4.53	13.23	25.70	4.44	13.21	25.88	4.34	13.20	26.05	4.25	13.18	26.21	4.16	13.17	26.37	4.07	13.16	26.53
5.04	13.22	25.79	4.94	13.20	25.97	4.83	13.19	26.14	4.73	13.18	26.30	4.63	13.16	26.46	4.52	13.16	26.62
5.56	13.21	25.86	5.44	13.20	26.03	5.32	13.18	26.20	5.21	13.17	26.36	5.09	13.16	26.53	4.98	13.15	26.68
8.18	13.20	26.01	8.00	13.18	26.19	7.82	13.17	26.35	7.65	13.16	26.52	7.47	13.15	26.68	7.30	13.15	26.84
2.24	17.49	17.47	2.15	16.78	18.96	2.09	16.44	19.77	2.04	16.21	20.37	2.00	16.03	20.86	1.96	15.89	21.29
2.38	15.96	21.06	2.32	15.81	21.52	2.28	15.69	21.92	2.23	15.59	22.28	2.19	15.51	22.60	2.15	15.44	22.90
2.61	15.60	22.25	2.56	15.51	22.60	2.50	15.43	22.93	2.46	15.37	23.23	2.41	15.31	23.51	2.36	15.26	23.77

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(a) $\epsilon_p = 30°$; $\Gamma = 20°$; $\epsilon_r = 12.13°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	30.97	30.23	8.0	27.83	24.92	3.37	16.54	19.51	13.96	.3169	3.49	29.58	21.43	2.92	15.51	22.59	9.80	.2642	4.65
			10.0	28.58	23.27	3.95	15.94	21.11	19.27	.2989	3.86	29.74	20.33	3.47	15.34	23.37	13.91	.2357	5.20
			12.0	28.83	22.51	4.59	15.74	21.75	26.15	.2864	4.08	29.81	19.71	4.05	15.26	23.78	18.95	.2175	5.58
			14.0	28.95	22.07	5.26	15.64	22.10	34.17	.2780	4.22	29.85	19.34	4.64	15.22	24.03	24.91	.2054	5.85
			16.0	29.02	21.79	5.94	15.58	22.32	43.89	.2722	4.32	29.87	19.10	5.23	15.19	24.18	31.80	.1971	6.05
			18.0	29.07	21.60	6.63	15.54	22.46	54.69	.2680	4.40	29.88	18.93	5.84	15.18	24.29	39.60	.1911	6.20
			20.0	29.10	21.47	7.32	15.52	22.56	66.76	.2649	4.46	29.89	18.80	6.45	15.17	24.37	48.31	.1867	6.32
			30.0	29.17	21.15	10.82	15.46	22.80	146.3	.2573	4.58	29.92	18.51	9.52	15.14	24.55	105.7	.1759	6.61
18	34.88	30.52	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	29.08	25.01	2.96	18.04	19.34	10.05	.2618	3.94
			8.0	-	-	-	-	-	-	-	-	29.47	23.89	3.24	17.67	20.50	12.08	.2460	4.27
			10.0	-	-	-	-	-	-	-	-	29.76	22.71	3.86	17.38	21.59	17.21	.2226	4.73
			12.0	-	-	-	-	-	-	-	-	29.88	22.08	4.51	17.27	22.12	23.57	.2076	5.04
			14.0	27.65	26.09	6.16	18.54	18.03	47.17	.2707	3.55	29.94	21.71	5.18	17.21	22.42	31.12	.1977	5.26
			16.0	28.05	25.50	6.89	18.25	18.77	59.10	.2667	3.67	29.98	21.46	5.85	17.17	22.62	39.83	.1910	5.41
			18.0	28.23	25.18	7.66	18.11	19.14	73.12	.2637	3.74	30.01	21.30	6.54	17.15	22.75	49.70	.1862	5.53
			20.0	28.34	24.97	8.44	18.03	19.37	88.94	.2614	3.79	30.02	21.18	7.23	17.13	22.84	60.75	.1826	5.61
			30.0	28.56	24.52	12.45	17.87	19.86	193.7	.2558	3.90	30.06	20.90	10.70	17.10	23.06	133.4	.1739	5.83
20	38.71	30.92	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	28.76	27.10	3.64	20.41	16.84	15.33	.2294	3.82
			10.0	-	-	-	-	-	-	-	-	29.66	25.36	4.28	19.62	19.16	21.23	.2121	4.28
			12.0	-	-	-	-	-	-	-	-	29.91	24.64	5.00	19.40	19.97	29.03	.2000	4.55
			14.0	-	-	-	-	-	-	-	-	30.02	24.23	5.75	19.29	20.40	38.35	.1919	4.72
			16.0	-	-	-	-	-	-	-	-	30.09	23.97	6.50	19.24	20.67	49.14	.1864	4.85
			18.0	-	-	-	-	-	-	-	-	30.13	23.80	7.26	19.20	20.84	61.38	.1825	4.94
			20.0	-	-	-	-	-	-	-	-	30.16	23.67	8.03	19.17	20.96	75.07	.1796	5.00
			30.0	-	-	-	-	-	-	-	-	30.22	23.38	11.91	19.12	21.25	165.2	.1725	5.17
22	42.45	31.44	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	29.25	28.01	5.64	22.15	15.98	36.89	.1929	3.99
			14.0	-	-	-	-	-	-	-	-	29.75	27.23	6.41	21.73	17.23	47.70	.1870	4.19
			16.0	-	-	-	-	-	-	-	-	29.95	26.85	7.23	21.57	17.77	60.77	.1826	4.30
			18.0	-	-	-	-	-	-	-	-	30.06	26.62	8.06	21.48	18.10	75.72	.1795	4.38
			20.0	-	-	-	-	-	-	-	-	30.13	26.46	8.91	21.42	18.31	92.48	.1772	4.44
			30.0	-	-	-	-	-	-	-	-	30.27	26.10	13.20	21.30	18.78	203.1	.1714	4.58
24	46.06	32.06	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	49.54	32.78	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	52.88	33.59	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	56.08	34.49	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	59.12	35.47	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	62.02	36.51	16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(g) $\epsilon_p = 30°$; $\Gamma = 20°$; $\epsilon_r = 12.13°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
2.86	15.43	22.93	2.80	15.36	23.24	2.75	15.30	23.54	2.69	15.25	23.81	2.64	15.21	24.07	2.59	15.17	24.32
3.40	15.28	23.68	3.33	15.23	23.96	3.26	15.19	24.23	3.19	15.15	24.48	3.13	15.12	24.72	3.06	15.09	24.95
3.96	15.21	24.07	3.88	15.17	24.34	3.79	15.13	24.60	3.71	15.11	24.84	3.63	15.08	25.08	3.56	15.06	25.30
4.54	15.17	24.30	4.44	15.14	24.57	4.34	15.11	24.82	4.25	15.08	25.06	4.15	15.06	25.29	4.06	15.05	25.51
5.12	15.15	24.46	5.01	15.12	24.72	4.90	15.09	24.96	4.79	15.07	25.20	4.68	15.05	25.43	4.58	15.04	25.65
5.71	15.14	24.56	5.58	15.11	24.82	5.46	15.08	25.07	5.34	15.06	25.30	5.22	15.05	25.53	5.10	15.03	25.75
6.30	15.13	24.64	6.16	15.10	24.89	6.02	15.08	25.14	5.89	15.06	25.37	5.76	15.04	25.60	5.62	15.03	25.82
9.31	15.11	24.81	9.10	15.08	25.07	8.89	15.06	25.31	8.68	15.04	25.54	8.48	15.03	25.77	8.29	15.02	25.99
-	-	-	-	-	-	-	-	-	2.24	18.84	17.32	2.17	18.33	18.56	2.11	18.03	19.38
2.64	18.56	17.98	2.55	18.12	19.13	2.49	17.85	19.92	2.43	17.66	20.54	2.37	17.51	21.07	2.32	17.40	21.53
2.88	17.78	20.14	2.80	17.59	20.77	2.74	17.45	21.31	2.68	17.34	21.78	2.62	17.25	22.20	2.57	17.18	22.58
3.16	17.51	21.10	3.08	17.38	21.62	3.01	17.28	22.08	2.95	17.19	22.49	2.89	17.13	22.87	2.82	17.07	23.22
3.77	17.28	22.08	3.68	17.19	22.52	3.60	17.12	22.91	3.52	17.06	23.28	3.44	17.02	23.63	3.37	16.98	23.95
4.40	17.18	22.57	4.30	17.11	22.97	4.20	17.05	23.35	4.11	17.01	23.70	4.02	16.97	24.03	3.93	16.94	24.34
5.06	17.13	22.85	4.94	17.07	23.24	4.82	17.02	23.61	4.71	16.98	23.95	4.61	16.95	24.27	4.50	16.92	24.56
5.72	17.10	23.03	5.58	17.04	23.42	5.45	17.00	23.77	5.33	16.96	24.11	5.21	16.94	24.43	5.09	16.91	24.74
6.38	17.08	23.16	6.23	17.03	23.53	6.09	16.99	23.89	5.95	16.95	24.22	5.81	16.93	24.54	5.67	16.91	24.84
7.05	17.07	23.24	6.89	17.02	23.62	6.73	16.98	23.97	6.57	16.95	24.30	6.42	16.92	24.62	6.27	16.90	24.92
10.44	17.04	23.45	10.19	16.99	23.82	9.95	16.96	24.16	9.72	16.93	24.49	9.49	16.91	24.80	9.26	16.90	25.10
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.29	20.47	16.67
-	-	-	-	-	-	2.74	20.44	16.75	2.64	19.89	18.27	2.56	19.60	19.23	2.50	19.40	19.98
3.23	20.66	16.20	3.08	19.91	18.22	2.99	19.59	19.27	2.91	19.38	20.06	2.84	19.22	20.72	2.77	19.11	21.29
3.49	19.80	18.57	3.38	19.50	19.57	3.29	19.31	20.34	3.21	19.17	20.98	3.13	19.06	21.54	3.06	18.98	22.05
4.15	19.37	20.07	4.04	19.21	20.79	3.94	19.09	21.40	3.85	18.99	21.95	3.76	18.92	22.44	3.67	18.87	22.89
4.86	19.22	20.73	4.74	19.09	21.37	4.62	19.00	21.93	4.51	18.92	22.44	4.40	18.87	22.90	4.30	18.82	23.33
5.59	19.14	21.10	5.45	19.03	21.70	5.31	18.95	22.24	5.18	18.89	22.73	5.06	18.84	23.17	4.94	18.80	23.59
6.33	19.10	21.33	6.16	19.00	21.92	6.01	18.92	22.43	5.87	18.86	22.91	5.73	18.82	23.35	5.59	18.79	23.76
7.07	19.07	21.49	6.89	18.98	22.06	6.72	18.91	22.57	6.56	18.85	23.04	6.40	18.81	23.47	6.25	18.78	23.88
7.82	19.05	21.60	7.62	18.96	22.16	7.43	18.89	22.66	7.25	18.84	23.12	7.08	18.80	23.56	6.91	18.78	23.96
11.59	19.01	21.85	11.30	18.93	22.39	11.02	18.87	22.88	10.75	18.82	23.34	10.49	18.79	23.76	10.23	18.77	24.16
-	-	-	-	-	-	-	-	-	-	-	-	2.78	21.91	16.68	2.69	21.48	18.10
-	-	-	-	-	-	3.29	22.18	15.90	3.16	21.55	17.83	3.06	21.26	18.96	2.98	21.06	19.83
-	-	-	3.75	22.09	16.14	3.59	21.50	18.04	3.48	21.21	19.16	3.39	21.03	20.03	3.30	20.90	20.75
4.61	21.83	16.91	4.43	21.37	18.52	4.30	21.12	19.57	4.18	20.96	20.40	4.08	20.84	21.11	3.98	20.76	21.73
5.36	21.45	18.19	5.19	21.16	19.37	5.04	20.98	20.26	4.91	20.86	21.00	4.79	20.77	21.65	4.67	20.71	22.24
6.16	21.30	18.78	5.97	21.07	19.82	5.81	20.92	20.64	5.66	20.81	21.35	5.51	20.73	21.97	5.38	20.68	22.53
6.97	21.22	19.13	6.76	21.01	20.09	6.58	20.88	20.88	6.41	20.78	21.56	6.25	20.71	22.17	6.10	20.67	22.72
7.79	21.17	19.35	7.56	20.98	20.28	7.36	20.85	21.04	7.17	20.76	21.71	6.99	20.70	22.31	6.82	20.66	22.85
8.61	21.13	19.50	8.36	20.96	20.41	8.14	20.84	21.16	7.93	20.75	21.81	7.73	20.69	22.40	7.54	20.65	22.94
12.78	21.06	19.85	12.41	20.91	20.70	12.08	20.80	21.42	11.77	20.73	22.05	11.48	20.67	22.63	11.20	20.64	23.16
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.90	23.82	15.37
-	-	-	-	-	-	-	-	-	-	-	-	3.31	23.45	16.61	3.20	23.07	18.11
-	-	-	-	-	-	-	-	-	3.78	23.44	16.63	3.65	23.05	18.19	3.55	22.84	19.29
-	-	-	-	-	-	4.68	23.33	17.03	4.53	22.99	18.52	4.40	22.79	19.59	4.28	22.66	20.47
-	-	-	5.71	23.55	16.24	5.49	23.07	18.11	5.32	22.84	19.30	5.18	22.69	20.25	5.04	22.60	21.05
-	-	-	6.54	23.31	17.13	6.32	22.96	18.65	6.13	22.77	19.74	5.97	22.64	20.62	5.82	22.56	21.39
7.86	24.18	14.32	7.40	23.19	17.60	7.16	22.90	18.98	6.95	22.73	20.00	6.77	22.62	20.86	6.60	22.55	21.60
8.67	23.76	15.56	8.27	23.12	17.89	8.01	22.86	19.19	7.78	22.70	20.18	7.57	22.60	21.01	7.38	22.53	21.74
9.55	23.62	16.03	9.15	23.08	18.09	8.86	22.83	19.34	8.61	22.68	20.31	8.38	22.59	21.13	8.17	22.53	21.85
14.11	23.39	16.83	13.58	22.98	18.53	13.16	22.78	19.68	12.80	22.65	20.60	12.46	22.56	21.39	12.15	22.51	22.09
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.43	25.21	15.83
-	-	-	-	-	-	-	-	-	-	-	-	3.94	25.27	15.61	3.80	24.83	17.55
-	-	-	-	-	-	-	-	-	4.90	25.22	15.80	4.73	24.79	17.75	4.59	24.58	19.04
-	-	-	-	-	-	6.05	25.76	13.94	5.75	24.92	17.11	5.57	24.64	18.60	5.41	24.49	19.73
-	-	-	-	-	-	6.89	25.27	15.61	6.62	24.79	17.73	6.42	24.58	19.07	6.25	24.45	20.12
-	-	-	-	-	-	7.79	25.11	16.25	7.51	24.73	18.09	7.29	24.54	19.35	7.09	24.43	20.37
-	-	-	-	-	-	8.70	25.02	16.62	8.40	24.69	18.33	8.16	24.51	19.55	7.94	24.41	20.54
-	-	-	-	-	-	9.62	24.97	16.87	9.30	24.66	18.49	9.03	24.50	19.68	8.79	24.41	20.65
-	-	-	15.01	25.58	14.50	14.29	24.86	17.39	13.83	24.60	18.87	13.44	24.47	19.99	13.09	24.39	20.93
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.06	26.94	15.23
-	-	-	-	-	-	-	-	-	-	-	-	5.08	26.96	15.16	4.90	26.53	17.36
-	-	-	-	-	-	-	-	-	-	-	-	5.97	26.68	16.52	5.78	26.41	18.23
-	-	-	-	-	-	-	-	-	7.17	27.10	14.59	6.88	26.56	17.17	6.68	26.35	18.70
-	-	-	-	-	-	-	-	-	8.11	26.92	15.34	7.81	26.50	17.55	7.59	26.32	19.00
-	-	-	-	-	-	-	-	-	9.06	26.82	15.76	8.75	26.47	17.80	8.50	26.30	19.19
-	-	-	-	-	-	-	-	-	10.02	26.77	16.04	9.69	26.44	17.97	9.41	26.29	19.33
-	-	-	-	-	-	-	-	-	14.89	26.66	16.62	14.42	26.39	18.36	14.02	26.26	19.65
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.22	28.57	15.19
-	-	-	-	-	-	-	-	-	-	-	-	6.44	29.10	12.81	6.15	28.36	16.43
-	-	-	-	-	-	-	-	-	-	-	-	7.38	28.72	14.44	7.11	28.28	17.04
-	-	-	-	-	-	-	-	-	-	-	-	8.36	28.58	15.11	8.08	28.23	17.41
-	-	-	-	-	-	-	-	-	-	-	-	9.35	28.51	15.51	9.05	28.20	17.65
-	-	-	-	-	-	-	-	-	-	-	-	10.36	28.47	15.77	10.02	28.19	17.82
-	-	-	-	-	-	-	-	-	-	-	-	15.41	28.38	16.33	14.93	28.15	18.20
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.54	30.43	13.95
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.55	30.27	14.93
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.57	30.19	15.46
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.60	30.14	15.79
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.64	30.12	16.01
-	-	-	-	-	-	-	-	-	-	-	-	16.49	30.60	13.11	15.85	30.06	16.51
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.10	32.32	12.51
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.18	32.20	13.17
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.27	32.14	13.57
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.77	32.02	14.35

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(r) $\epsilon_p = 30°$; $\Gamma = 30°$; $\epsilon_r = 19.47°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$ θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	$\gamma_e = \gamma_\infty = 1.40$ θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
16	28.35	30.18	7.0	28.34	21.67	2.81	15.05	21.07	9.63	.3458	3.55	21.58	20.88	2.50	14.34	23.19	7.10	.3005	4.51
			8.0	28.75	22.50	3.06	14.76	22.03	11.47	.3329	3.83	21.70	19.97	2.73	14.20	23.78	8.54	.2783	4.90
			10.0	29.07	21.24	3.62	14.41	22.55	16.16	.3080	4.21	21.81	18.87	3.23	14.06	24.45	12.04	.2463	5.51
			12.0	29.21	20.56	4.21	14.29	23.40	21.97	.2931	4.45	21.86	18.25	3.76	14.00	24.81	16.31	.2257	5.96
			14.0	29.28	20.16	4.82	14.22	23.87	28.87	.2841	4.62	21.89	17.87	4.30	13.96	25.02	21.37	.2118	6.28
			16.0	29.32	19.89	5.44	14.19	24.21	36.83	.2762	4.74	21.91	17.62	4.84	13.94	25.16	27.19	.2022	6.52
			18.0	29.35	19.71	6.07	14.16	24.44	45.86	.2713	4.83	21.92	17.44	5.40	13.93	25.26	33.80	.1962	6.70
			20.0	29.37	19.58	6.70	14.14	24.63	55.95	.2678	4.89	21.93	17.32	5.95	13.92	25.33	41.17	.1902	6.84
			30.0	29.42	19.27	9.96	14.10	24.21	122.4	.2586	5.06	21.94	17.01	8.78	13.90	25.49	89.70	.1775	7.20
18	32.32	30.03	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	21.45	24.80	2.52	16.95	19.17	7.22	.2982	3.75
			7.0	-	-	-	-	-	-	-	-	21.04	23.09	2.75	16.35	20.83	8.61	.2772	4.19
			8.0	-	-	-	-	-	-	-	-	21.27	22.11	3.01	16.11	21.67	10.41	.2586	4.54
			10.0	27.89	24.41	4.13	16.79	17.55	21.17	.2948	3.68	21.47	20.98	3.56	15.90	22.65	14.78	.2317	5.05
			12.0	28.29	24.51	4.79	16.47	20.45	28.41	.2836	3.91	21.55	20.36	4.18	15.81	24.00	20.17	.2145	5.43
			14.0	28.47	24.02	5.47	16.33	22.90	37.24	.2759	4.05	21.60	19.99	4.79	15.76	24.76	26.55	.2031	5.68
			16.0	28.57	22.71	6.18	16.25	23.16	47.49	.2726	4.14	21.63	19.74	5.40	15.73	25.29	33.91	.1952	5.87
			18.0	28.64	22.51	6.89	16.20	24.34	59.15	.2667	4.21	21.64	19.57	6.03	15.72	25.64	42.26	.1896	6.01
			20.0	28.68	22.36	7.61	16.17	24.46	72.19	.2639	4.26	21.66	19.45	6.66	15.70	25.89	51.58	.1855	6.11
			30.0	28.77	22.03	11.25	16.09	24.74	158.1	.2569	4.39	21.68	19.16	9.85	15.68	26.46	113.0	.1752	6.38
20	36.32	30.00	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	21.95	26.02	3.07	18.92	17.01	10.83	.2550	3.81
			8.0	-	-	-	-	-	-	-	-	21.69	24.56	3.32	18.24	18.80	12.73	.2421	4.17
			10.0	-	-	-	-	-	-	-	-	21.11	23.25	3.95	17.85	20.23	18.01	.2201	4.63
			12.0	-	-	-	-	-	-	-	-	21.26	22.59	4.61	17.70	20.84	24.64	.2054	4.94
			14.0	-	-	-	-	-	-	-	-	21.34	22.21	5.29	17.62	21.19	32.30	.1964	5.15
			16.0	-	-	-	-	-	-	-	-	21.39	21.96	5.98	17.58	21.41	41.59	.1899	5.29
			18.0	-	-	-	-	-	-	-	-	21.42	21.79	6.68	17.55	21.56	51.91	.1853	5.40
			20.0	-	-	-	-	-	-	-	-	21.44	21.67	7.38	17.53	21.66	63.44	.1820	5.49
			30.0	26.97	26.27	13.18	18.95	16.93	217.2	.2552	3.65	21.48	21.38	10.94	17.49	21.90	139.3	.1736	5.69
22	40.31	30.10	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	24.34	26.07	4.39	20.21	16.64	22.37	.2098	4.17
			12.0	-	-	-	-	-	-	-	-	24.80	25.13	5.10	19.80	17.91	30.13	.1988	4.46
			14.0	-	-	-	-	-	-	-	-	24.99	24.66	5.84	19.64	18.50	39.63	.1911	4.64
			16.0	-	-	-	-	-	-	-	-	25.09	24.37	6.60	19.56	18.83	50.68	.1858	4.77
			18.0	-	-	-	-	-	-	-	-	25.15	24.18	7.37	19.51	19.05	63.23	.1820	4.86
			20.0	-	-	-	-	-	-	-	-	25.19	24.04	8.15	19.47	19.20	77.29	.1792	4.92
			30.0	-	-	-	-	-	-	-	-	25.27	23.73	12.07	19.39	19.55	169.8	.1724	5.09
24	44.27	30.31	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	28.24	27.24	9.15	22.04	14.76	97.58	.1766	4.30
			30.0	-	-	-	-	-	-	-	-	28.69	26.57	13.42	21.68	15.89	210.0	.1713	4.49
26	48.16	30.64	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	51.96	31.08	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	55.66	31.63	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	59.23	32.28	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	62.66	33.04	18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(r) $\epsilon_p = 30°$; $\Gamma = 30°$, $\epsilon_r = 19.47°$- Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
2.45	14.27	23.46	2.40	14.21	23.72	2.36	14.16	23.95	2.32	14.11	24.18	2.28	14.07	24.39	2.24	14.03	24.60
2.68	14.14	24.03	2.63	14.09	24.26	2.58	14.05	24.48	2.53	14.02	24.69	2.49	13.98	24.89	2.44	13.95	25.08
3.17	14.02	24.68	3.11	13.98	24.89	3.05	13.95	25.09	2.99	13.93	25.29	2.93	13.90	25.48	2.87	13.88	25.66
3.68	13.96	25.02	3.61	13.93	25.23	3.53	13.91	25.43	3.46	13.89	25.62	3.39	13.87	25.81	3.32	13.85	25.99
4.21	13.93	25.23	4.12	13.91	25.44	4.03	13.89	25.63	3.95	13.87	25.82	3.86	13.85	26.01	3.78	13.84	26.19
4.74	13.92	25.37	4.64	13.89	25.57	4.54	13.87	25.77	4.44	13.86	25.96	4.35	13.84	26.14	4.25	13.83	26.32
5.28	13.91	25.47	5.17	13.88	25.67	5.05	13.87	25.86	4.95	13.85	26.05	4.84	13.84	26.23	4.73	13.83	26.41
5.82	13.90	25.53	5.70	13.88	25.73	5.57	13.86	25.93	5.45	13.85	26.11	5.33	13.83	26.30	5.21	13.82	26.47
8.58	13.88	25.70	8.39	13.86	25.89	8.20	13.85	26.09	8.02	13.83	26.27	7.84	13.83	26.45	7.66	13.82	26.63
-	-	-	-	-	-	2.16	17.32	18.26	2.10	16.94	19.16	2.05	16.69	19.82	2.00	16.51	20.35
2.45	16.66	19.90	2.39	16.46	20.50	2.34	16.30	20.99	2.29	16.18	21.42	2.24	16.07	21.81	2.20	15.99	22.16
2.68	16.21	21.32	2.62	16.09	21.74	2.57	16.00	22.13	2.52	15.92	22.47	2.47	15.85	22.80	2.42	15.79	23.10
2.94	16.01	22.08	2.88	15.92	22.45	2.82	15.85	22.79	2.76	15.79	23.10	2.71	15.74	23.40	2.65	15.70	23.68
3.50	15.83	22.90	3.43	15.77	23.23	3.35	15.72	23.53	3.28	15.68	23.82	3.21	15.64	24.09	3.15	15.61	24.35
4.08	15.75	23.33	3.99	15.70	23.64	3.91	15.66	23.93	3.82	15.63	24.20	3.74	15.60	24.47	3.66	15.58	24.72
4.68	15.71	23.58	4.57	15.67	23.88	4.47	15.63	24.16	4.38	15.60	24.43	4.28	15.58	24.69	4.18	15.56	24.94
5.28	15.69	23.74	5.16	15.65	24.04	5.05	15.62	24.32	4.94	15.59	24.58	4.83	15.57	24.84	4.72	15.55	25.09
5.89	15.67	23.85	5.76	15.63	24.14	5.63	15.60	24.42	5.50	15.58	24.69	5.38	15.56	24.94	5.26	15.55	25.19
6.51	15.66	23.93	6.36	15.63	24.22	6.22	15.60	24.50	6.08	15.57	24.76	5.94	15.56	25.02	5.80	15.54	25.26
9.62	15.64	24.12	9.40	15.61	24.41	9.18	15.58	24.68	8.97	15.56	24.94	8.76	15.55	25.19	8.55	15.53	25.43
-	-	-	-	-	-	-	-	-	-	-	-	2.23	19.26	16.21	2.16	18.67	17.65
-	-	-	2.64	18.96	16.90	2.54	18.46	18.23	2.47	18.17	19.08	2.41	17.98	19.74	2.36	17.83	20.30
2.95	18.39	18.42	2.86	18.11	19.29	2.79	17.91	19.97	2.73	17.77	20.54	2.67	17.65	21.04	2.61	17.56	21.48
3.23	18.00	19.67	3.15	17.82	20.31	3.07	17.69	20.86	3.00	17.59	21.35	2.93	17.51	21.78	2.87	17.44	22.18
3.85	17.70	20.82	3.75	17.59	21.34	3.67	17.51	21.80	3.58	17.44	22.22	3.50	17.38	22.61	3.42	17.34	22.97
4.50	17.59	21.37	4.39	17.50	21.85	4.28	17.43	22.27	4.19	17.38	22.67	4.09	17.33	23.04	4.00	17.30	23.39
5.16	17.53	21.69	5.04	17.45	22.14	4.92	17.39	22.55	4.80	17.34	22.94	4.69	17.31	23.30	4.59	17.28	23.64
5.83	17.49	21.89	5.69	17.42	22.33	5.56	17.37	22.73	5.43	17.32	23.11	5.30	17.29	23.47	5.18	17.27	23.80
6.52	17.47	22.03	6.36	17.40	22.46	6.21	17.35	22.86	6.06	17.31	23.23	5.92	17.28	23.58	5.78	17.26	23.91
7.20	17.45	22.13	7.03	17.39	22.55	6.86	17.34	22.94	6.70	17.30	23.31	6.54	17.28	23.66	6.39	17.26	23.99
10.66	17.42	22.35	10.41	17.36	22.77	10.16	17.32	23.15	9.91	17.29	23.51	9.68	17.26	23.86	9.45	17.25	24.18
-	-	-	-	-	-	-	-	-	2.72	20.70	15.31	2.61	20.06	17.09	2.53	19.74	18.13
-	-	-	-	-	-	3.04	20.07	17.05	2.95	19.73	18.18	2.87	19.51	19.02	2.80	19.36	19.70
3.61	20.66	15.40	3.44	19.95	17.44	3.34	19.64	18.51	3.25	19.45	19.31	3.17	19.31	19.98	3.09	19.20	20.57
4.22	19.75	18.09	4.10	19.51	19.04	3.99	19.34	19.79	3.89	19.22	20.43	3.79	19.14	20.99	3.70	19.07	21.50
4.93	19.53	18.94	4.79	19.35	19.74	4.67	19.23	20.40	4.55	19.14	20.98	4.44	19.07	21.50	4.34	19.02	21.98
5.66	19.43	19.40	5.51	19.28	20.12	5.37	19.17	20.75	5.24	19.09	21.30	5.11	19.04	21.80	4.99	18.99	22.27
6.41	19.37	19.67	6.24	19.24	20.37	6.08	19.14	20.97	5.93	19.07	21.50	5.78	19.02	22.00	5.64	18.98	22.45
7.16	19.33	19.86	6.97	19.21	20.53	6.79	19.12	21.11	6.62	19.05	21.64	6.46	19.01	22.13	6.31	18.97	22.58
7.91	19.31	19.98	7.70	19.19	20.64	7.51	19.10	21.22	7.32	19.04	21.74	7.14	19.00	22.22	6.97	18.97	22.67
11.73	19.25	20.28	11.42	19.15	20.91	11.13	19.07	21.46	10.85	19.02	21.97	10.59	18.98	22.44	10.33	18.95	22.88
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.73	21.93	15.09
-	-	-	-	-	-	-	-	-	3.24	22.25	14.19	3.09	21.52	16.44	3.00	21.21	17.64
-	-	-	-	-	-	3.67	22.10	14.60	3.51	21.45	16.70	3.41	21.16	17.87	3.32	20.98	18.77
-	-	-	4.50	21.78	15.57	4.33	21.31	17.25	4.20	21.07	18.33	4.09	20.91	19.18	3.98	20.81	19.91
5.51	22.09	14.61	5.24	21.38	16.94	5.07	21.10	18.14	4.93	20.93	19.05	4.80	20.82	19.81	4.68	20.74	20.47
6.25	21.65	15.98	6.01	21.23	17.56	5.83	21.01	18.61	5.67	20.87	19.45	5.52	20.77	20.17	5.39	20.71	20.80
7.05	21.49	16.55	6.80	21.15	17.92	6.60	20.96	18.90	6.42	20.83	19.70	6.26	20.75	20.40	6.10	20.69	21.01
7.87	21.40	16.89	7.60	21.10	18.15	7.38	20.93	19.09	7.18	20.81	19.87	7.00	20.73	20.55	6.82	20.68	21.16
8.69	21.34	17.11	8.41	21.07	18.31	8.16	20.90	19.23	7.94	20.80	19.99	7.74	20.72	20.66	7.55	20.67	21.26
12.87	21.22	17.59	12.47	21.00	18.68	12.12	20.86	19.54	11.79	20.76	20.26	11.49	20.70	20.91	11.21	20.66	21.49
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.22	23.23	14.92
-	-	-	-	-	-	-	-	-	-	-	-	3.67	23.20	15.04	3.55	22.82	16.66
-	-	-	-	-	-	-	-	-	4.54	23.07	15.55	4.39	22.74	17.05	4.27	22.56	18.14
-	-	-	-	-	-	5.53	23.26	14.82	5.32	22.81	16.68	5.16	22.60	17.88	5.02	22.47	18.83
-	-	-	-	-	-	6.33	23.02	15.74	6.12	22.70	17.25	5.94	22.53	18.33	5.78	22.43	19.22
-	-	-	7.55	23.70	13.35	7.16	22.91	16.23	6.93	22.64	17.59	6.74	22.50	18.61	6.56	22.40	19.47
-	-	-	8.36	23.40	14.31	8.00	22.84	16.53	7.75	22.61	17.81	7.56	22.47	18.80	7.34	22.39	19.64
-	-	-	9.22	23.28	14.75	8.85	22.80	16.73	8.58	22.59	17.96	8.34	22.46	18.93	8.12	22.38	19.75
-	-	-	13.62	23.07	15.54	13.13	22.72	17.18	12.74	22.53	18.31	12.39	22.43	19.23	12.07	22.36	20.02
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.80	24.83	13.78
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.55	24.35	16.08
-	-	-	-	-	-	-	-	-	5.79	25.15	12.58	5.53	24.45	15.50	5.36	24.22	16.98
-	-	-	-	-	-	-	-	-	6.61	24.75	14.12	6.37	24.34	16.15	6.18	24.16	17.46
-	-	-	-	-	-	-	-	-	7.47	24.60	14.76	7.22	24.28	16.52	7.01	24.12	17.76
-	-	-	-	-	-	-	-	-	8.35	24.52	15.13	8.08	24.24	16.77	7.85	24.10	17.96
-	-	-	-	-	-	-	-	-	9.24	24.48	15.37	8.94	24.22	16.94	8.69	24.09	18.10
-	-	-	-	-	-	14.32	24.93	13.40	13.71	24.38	15.90	13.29	24.17	17.32	12.93	24.06	18.42
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.86	26.26	13.38
-	-	-	-	-	-	-	-	-	-	-	-	6.01	26.91	10.77	5.71	26.01	14.76
-	-	-	-	-	-	-	-	-	-	-	-	6.83	26.33	13.06	6.58	25.91	15.43
-	-	-	-	-	-	-	-	-	-	-	-	7.73	26.18	13.77	7.47	25.86	15.82
-	-	-	-	-	-	-	-	-	-	-	-	8.64	26.11	14.17	8.36	25.83	16.07
-	-	-	-	-	-	-	-	-	-	-	-	9.56	26.06	14.44	9.26	25.81	16.25
-	-	-	-	-	-	-	-	-	14.92	26.71	11.47	14.20	25.97	15.01	13.77	25.77	16.65
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.09	28.02	11.44
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.99	27.76	12.79
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.93	27.66	13.41
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.87	27.60	13.79
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.83	27.57	14.04
-	-	-	-	-	-	-	-	-	-	-	-	15.25	28.05	11.28	14.62	27.50	14.59
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.46	29.65	10.00
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.44	29.50	10.77
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.50	29.32	11.88

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(s) $\epsilon_p = 15°$; $\Gamma = 0°$; $\epsilon_r = 0°$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
4	7.68	15.13	5.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			6.0	14.86	11.62	1.21	2.69	13.19	1.58	.7638	5.42	14.96	11.35	1.18	2.63	13.29	1.46	.7641	5.63
			7.0	15.00	10.00	1.22	2.39	13.69	1.60	.7575	6.32	15.05	9.79	1.19	2.36	13.74	1.48	.7553	6.57
			8.0	15.05	8.88	1.23	2.26	13.94	1.66	.7425	7.18	15.08	8.68	1.21	2.24	13.98	1.53	.7389	7.48
			10.0	15.08	7.36	1.28	2.14	14.23	1.80	.7069	8.82	15.11	7.17	1.25	2.13	14.26	1.65	.7009	9.25
			12.0	15.10	6.39	1.34	2.09	14.39	1.98	.6711	10.38	15.11	6.20	1.30	2.08	14.42	1.79	.6628	10.97
			14.0	15.10	5.71	1.39	2.06	14.49	2.17	.6372	11.88	15.12	5.52	1.35	2.06	14.52	1.95	.6262	12.64
			16.0	15.10	5.21	1.45	2.05	14.56	2.39	.6060	13.27	15.12	5.02	1.40	2.04	14.59	2.12	.5922	14.25
			18.0	15.11	4.83	1.51	2.04	14.62	2.62	.5774	14.60	15.12	4.63	1.45	2.03	14.65	2.30	.5608	15.81
			20.0	15.11	4.53	1.58	2.03	14.66	2.87	.5513	15.87	15.12	4.33	1.51	2.02	14.69	2.49	.5319	17.32
			30.0	15.11	3.68	1.93	2.01	14.78	4.39	.4528	21.24	15.12	3.47	1.81	2.01	14.81	3.67	.4199	24.12
4	15.12	15.51	6.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			7.0	14.84	12.33	1.49	5.03	11.95	2.54	.5862	5.65	15.16	11.65	1.41	4.79	12.37	2.16	.5838	6.14
			8.0	15.14	10.95	1.52	4.60	12.73	2.64	.5754	6.42	15.32	10.41	1.45	4.48	12.98	2.27	.5653	6.98
			10.0	15.31	9.34	1.62	4.30	13.41	3.04	.5355	7.76	15.41	8.86	1.54	4.24	13.58	2.60	.5179	8.54
			12.0	15.36	8.37	1.75	4.19	13.75	3.57	.4965	8.95	15.45	7.90	1.65	4.15	13.90	3.01	.4727	9.99
			14.0	15.39	7.72	1.88	4.13	13.95	4.18	.4625	10.00	15.46	7.26	1.77	4.10	14.10	3.46	.4331	11.33
			16.0	15.40	7.27	2.02	4.10	14.10	4.87	.4338	10.93	15.47	6.80	1.89	4.07	14.24	4.02	.3992	12.56
			18.0	15.41	6.93	2.17	4.08	14.20	5.65	.4097	11.76	15.47	6.45	2.02	4.05	14.33	4.61	.3703	13.70
			20.0	15.42	6.68	2.33	4.07	14.27	6.51	.3895	12.49	15.48	6.19	2.16	4.04	14.41	5.26	.3458	14.75
			30.0	15.43	6.01	3.14	4.04	14.46	12.08	.3269	15.02	15.48	5.49	2.87	4.02	14.60	9.46	.2677	18.77
6	22.10	16.13	7.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			8.0	–	–	–	–	–	–	–	–	15.61	12.45	1.72	6.82	11.76	3.30	.4468	6.46
			10.0	15.56	11.71	2.03	6.59	12.27	4.91	.4326	6.75	15.89	10.19	1.87	6.38	12.83	3.92	.4046	7.82
			12.0	15.74	10.71	2.23	6.36	12.88	5.96	.4017	7.64	15.97	9.85	2.05	6.23	13.33	4.75	.3645	9.01
			14.0	15.81	10.08	2.45	6.26	13.21	7.26	.3757	8.36	16.00	9.24	2.25	6.15	13.63	5.73	.3315	10.04
			16.0	15.85	9.66	2.68	6.20	13.42	8.76	.3549	8.96	16.02	8.83	2.45	6.11	13.82	6.86	.3050	10.94
			18.0	15.88	9.36	2.93	6.17	13.57	10.47	.3384	9.45	16.03	8.53	2.67	6.09	13.95	8.14	.2837	11.72
			20.0	15.89	9.14	3.18	6.14	13.67	12.37	.3252	9.86	16.04	8.30	2.89	6.07	14.05	9.56	.2666	12.40
			30.0	15.93	8.59	4.48	6.10	13.93	24.85	.2883	11.09	16.06	7.74	4.04	6.04	14.30	18.86	.2178	14.68
8	28.56	16.96	7.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			8.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			10.0	–	–	–	–	–	–	–	–	16.45	12.97	2.24	8.60	11.84	5.71	.3321	7.10
			12.0	15.94	13.58	2.82	8.81	11.30	9.68	.3453	6.40	16.63	12.01	2.50	8.35	12.60	7.10	.3004	8.05
			14.0	16.20	12.83	3.11	8.66	11.96	11.85	.3284	6.94	16.70	11.43	2.77	8.24	13.00	8.81	.2750	8.83
			16.0	16.31	12.39	3.43	8.44	12.31	14.49	.3145	7.34	16.74	11.04	3.06	8.19	13.26	10.78	.2554	9.47
			18.0	16.38	12.09	3.77	8.37	12.54	17.53	.3036	7.65	16.77	10.77	3.36	8.15	13.43	13.03	.2403	10.00
			20.0	16.42	11.88	4.12	8.32	12.69	20.94	.2951	7.89	16.78	10.57	3.67	8.13	13.55	15.54	.2286	10.44
			30.0	16.51	11.37	5.91	8.24	13.04	43.50	.2724	8.56	16.81	10.09	5.26	8.08	13.84	32.05	.1968	11.77
10	34.27	17.96	8.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			10.0	–	–	–	–	–	–	–	–	16.69	15.77	2.72	11.25	9.81	8.45	.2795	6.28
			12.0	–	–	–	–	–	–	–	–	17.32	14.42	2.99	10.60	11.47	10.26	.2600	7.13
			14.0	–	–	–	–	–	–	–	–	17.48	13.81	3.34	10.41	12.09	12.85	.2419	7.73
			16.0	–	–	–	–	–	–	–	–	17.56	13.42	3.71	10.32	12.44	15.92	.2271	8.20
			18.0	–	–	–	–	–	–	–	–	17.61	13.16	4.10	10.27	12.67	19.43	.2163	8.56
			20.0	16.42	15.48	5.32	11.03	10.33	35.03	.2775	6.20	17.64	12.98	4.49	10.23	12.82	23.36	.2080	8.85
			30.0	16.87	14.59	7.96	10.66	11.29	71.18	.2641	6.71	17.70	12.53	6.51	10.16	13.18	49.28	.1863	9.67
12	39.39	19.12	8.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			10.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			14.0	–	–	–	–	–	–	–	–	18.07	16.60	4.00	12.86	10.33	18.49	.2188	6.69
			16.0	–	–	–	–	–	–	–	–	18.32	16.07	4.43	12.63	11.04	22.73	.2091	7.06
			18.0	–	–	–	–	–	–	–	–	18.44	15.77	4.89	12.51	11.42	27.76	.2015	7.34
			20.0	–	–	–	–	–	–	–	–	18.51	15.57	5.37	12.45	11.67	33.44	.1956	7.54
			30.0	–	–	–	–	–	–	–	–	18.64	15.11	7.82	12.32	12.18	71.17	.1803	8.09
14	43.93	20.41	10.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			14.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			16.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			18.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			20.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			30.0	–	–	–	–	–	–	–	–	19.29	18.11	9.32	14.81	10.12	101.3	.1763	6.76
16	47.93	21.88	10.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			14.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			16.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			18.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			20.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			30.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
18	51.46	23.32	12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			14.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			16.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			18.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			20.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			30.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
20	54.68	24.81	12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			14.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			16.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			18.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			20.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			30.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
22	57.36	26.42	12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			14.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			16.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			18.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			20.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
			30.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(s) $\epsilon_p = 15°$; $\Gamma = 0°$; $\epsilon_f = 0°$ - Continued

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
-	-	-	-	-	-	-	-	-	-	-	-	1.20	3.83	11.73	1.19	3.68	11.91
1.18	2.62	13.31	1.17	2.61	13.32	1.17	2.60	13.34	1.16	2.59	13.35	1.16	2.58	13.37	1.15	2.57	13.38
1.19	2.36	13.75	1.18	2.35	13.76	1.18	2.35	13.77	1.17	2.34	13.78	1.17	2.34	13.79	1.16	2.34	13.79
1.20	2.24	13.99	1.20	2.24	14.00	1.19	2.23	14.01	1.19	2.23	14.01	1.18	2.23	14.02	1.18	2.22	14.03
1.24	2.13	14.27	1.24	2.13	14.27	1.23	2.13	14.28	1.23	2.12	14.28	1.22	2.12	14.29	1.21	2.12	14.29
1.29	2.08	14.42	1.28	2.08	14.43	1.28	2.08	14.43	1.27	2.08	14.44	1.26	2.08	14.44	1.25	2.07	14.45
1.34	2.06	14.52	1.33	2.05	14.53	1.32	2.05	14.53	1.31	2.05	14.54	1.31	2.05	14.54	1.30	2.05	14.55
1.39	2.04	14.60	1.38	2.04	14.60	1.37	2.04	14.61	1.36	2.04	14.61	1.35	2.04	14.62	1.34	2.04	14.62
1.44	2.03	14.65	1.43	2.03	14.66	1.42	2.03	14.66	1.41	2.03	14.67	1.40	2.03	14.67	1.39	2.03	14.68
1.50	2.02	14.69	1.49	2.02	14.70	1.47	2.02	14.70	1.46	2.02	14.71	1.45	2.02	14.71	1.44	2.02	14.72
1.79	2.01	14.81	1.77	2.01	14.82	1.75	2.01	14.82	1.73	2.01	14.83	1.71	2.01	14.83	1.69	2.01	14.84
1.44	5.99	10.53	1.40	5.70	10.93	1.38	5.54	11.16	1.36	5.43	11.33	1.35	5.34	11.46	1.33	5.26	11.58
1.40	4.75	12.43	1.39	4.72	12.48	1.38	4.70	12.54	1.36	4.67	12.59	1.35	4.64	12.64	1.34	4.62	12.68
1.43	4.46	13.02	1.42	4.45	13.05	1.41	4.43	13.09	1.40	4.42	13.13	1.39	4.40	13.16	1.37	4.39	13.20
1.53	4.23	13.61	1.51	4.23	13.64	1.50	4.22	13.66	1.48	4.21	13.69	1.47	4.20	13.72	1.46	4.19	13.74
1.63	4.14	13.92	1.62	4.14	13.95	1.60	4.13	13.98	1.58	4.12	14.00	1.57	4.12	14.02	1.55	4.11	14.05
1.75	4.09	14.12	1.73	4.09	14.15	1.71	4.08	14.17	1.69	4.08	14.20	1.67	4.08	14.22	1.65	4.07	14.24
1.87	4.07	14.26	1.85	4.06	14.28	1.82	4.06	14.31	1.80	4.06	14.33	1.78	4.05	14.35	1.76	4.05	14.38
2.00	4.05	14.36	1.97	4.05	14.38	1.94	4.04	14.41	1.92	4.04	14.43	1.89	4.04	14.45	1.87	4.03	14.48
2.13	4.04	14.43	2.10	4.04	14.46	2.07	4.03	14.48	2.04	4.03	14.50	2.01	4.03	14.53	1.98	4.03	14.55
2.82	4.02	14.63	2.78	4.02	14.65	2.73	4.01	14.68	2.68	4.01	14.70	2.63	4.01	14.73	2.59	4.01	14.75
1.68	7.55	10.40	1.64	7.34	10.77	1.61	7.19	11.03	1.59	7.08	11.23	1.56	6.99	11.41	1.54	6.91	11.56
1.70	6.75	11.90	1.67	6.69	12.03	1.65	6.64	12.14	1.63	6.60	12.25	1.61	6.56	12.35	1.59	6.52	12.45
1.85	6.35	12.92	1.82	6.32	13.00	1.79	6.30	13.08	1.77	6.28	13.15	1.75	6.26	13.22	1.72	6.24	13.29
2.02	6.21	13.40	1.99	6.19	13.47	1.96	6.17	13.54	1.94	6.16	13.61	1.91	6.14	13.67	1.88	6.13	13.73
2.21	6.14	13.69	2.18	6.13	13.76	2.15	6.11	13.82	2.11	6.10	13.89	2.08	6.09	13.95	2.05	6.08	14.01
2.41	6.10	13.88	2.38	6.09	13.95	2.34	6.08	14.01	2.30	6.07	14.07	2.26	6.06	14.13	2.22	6.05	14.19
2.62	6.08	14.02	2.58	6.07	14.08	2.53	6.06	14.14	2.49	6.05	14.20	2.45	6.04	14.26	2.40	6.04	14.32
2.84	6.06	14.12	2.79	6.06	14.18	2.74	6.05	14.24	2.69	6.04	14.30	2.64	6.03	14.36	2.59	6.03	14.42
3.96	6.03	14.36	3.88	6.03	14.42	3.80	6.02	14.48	3.73	6.02	14.54	3.65	6.01	14.60	3.58	6.01	14.66
-	-	-	-	-	-	-	-	-	-	-	-	1.82	9.71	9.48	1.76	9.33	10.19
2.04	9.46	9.93	1.97	9.15	10.55	1.93	8.97	10.94	1.89	8.83	11.24	1.85	8.73	11.49	1.82	8.65	11.71
2.20	8.52	12.06	2.16	8.46	12.25	2.12	8.40	12.43	2.08	8.35	12.59	2.05	8.31	12.74	2.01	8.27	12.88
2.45	8.31	12.76	2.40	8.27	12.92	2.36	8.23	13.06	2.32	8.20	13.20	2.28	8.17	13.33	2.23	8.15	13.45
2.72	8.21	13.15	2.67	8.18	13.29	2.62	8.15	13.42	2.57	8.13	13.55	2.52	8.11	13.67	2.47	8.09	13.79
3.00	8.16	13.40	2.95	8.13	13.53	2.89	8.11	13.66	2.83	8.09	13.78	2.78	8.08	13.90	2.72	8.06	14.01
3.30	8.13	13.56	3.23	8.11	13.69	3.17	8.09	13.82	3.10	8.07	13.94	3.04	8.06	14.05	2.98	8.04	14.17
3.59	8.11	13.68	3.52	8.09	13.81	3.45	8.07	13.93	3.38	8.06	14.05	3.31	8.04	14.17	3.24	8.03	14.28
5.14	8.07	13.97	5.03	8.05	14.10	4.92	8.04	14.21	4.82	8.03	14.33	4.71	8.02	14.44	4.61	8.01	14.55
-	-	-	-	-	-	-	-	-	2.20	11.37	9.56	2.12	11.00	10.38	2.06	10.80	10.89
2.61	10.88	10.69	2.53	10.69	11.20	2.47	10.56	11.60	2.41	10.46	11.93	2.36	10.38	12.22	2.31	10.31	12.47
2.91	10.48	11.86	2.84	10.39	12.18	2.78	10.31	12.46	2.72	10.26	12.72	2.66	10.21	12.95	2.61	10.17	13.17
3.26	10.33	12.40	3.19	10.27	12.67	3.12	10.21	12.92	3.05	10.17	13.15	2.98	10.13	13.36	2.92	10.10	13.56
3.63	10.25	12.72	3.54	10.20	12.97	3.47	10.16	13.20	3.39	10.12	13.42	3.32	10.09	13.62	3.25	10.07	13.82
4.00	10.21	12.93	3.91	10.16	13.17	3.82	10.13	13.39	3.74	10.10	13.60	3.66	10.07	13.80	3.58	10.05	13.99
4.39	10.18	13.08	4.29	10.14	13.31	4.19	10.11	13.53	4.10	10.08	13.74	4.01	10.06	13.93	3.92	10.04	14.12
6.36	10.12	13.42	6.21	10.09	13.64	6.07	10.07	13.85	5.93	10.05	14.05	5.79	10.03	14.23	5.66	10.02	14.42
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.33	13.07	9.77
-	-	-	-	-	-	2.86	12.89	10.26	2.77	12.63	11.03	2.70	12.47	11.58	2.63	12.36	12.03
3.45	12.93	10.15	3.32	12.63	11.04	3.23	12.46	11.63	3.14	12.34	12.10	3.07	12.25	12.50	3.00	12.19	12.85
3.85	12.58	11.19	3.74	12.42	11.77	3.64	12.31	12.24	3.55	12.23	12.63	3.46	12.17	12.99	3.38	12.12	13.31
4.29	12.44	11.68	4.17	12.32	12.18	4.06	12.24	12.49	3.97	12.17	12.96	3.87	12.12	13.29	3.78	12.08	13.59
4.75	12.37	11.98	4.62	12.27	12.43	4.50	12.19	12.82	4.39	12.14	13.17	4.29	12.09	13.49	4.19	12.06	13.78
5.21	12.32	12.18	5.07	12.23	12.61	4.95	12.17	12.98	4.83	12.12	13.32	4.71	12.08	13.63	4.60	12.05	13.92
7.61	12.23	12.62	7.41	12.16	13.01	7.22	12.11	13.35	7.05	12.07	13.67	6.88	12.04	13.96	6.71	12.02	14.24
-	-	-	-	-	-	-	-	-	3.19	15.10	9.28	3.05	14.63	10.71	2.96	14.42	11.49
-	-	-	-	-	-	3.72	14.78	10.22	3.59	14.49	11.23	3.48	14.33	11.93	3.39	14.22	12.48
-	-	-	4.35	14.81	10.11	4.19	14.49	11.22	4.06	14.32	11.94	3.95	14.21	12.51	3.85	14.14	13.00
-	-	-	4.85	14.58	10.88	4.69	14.37	11.72	4.55	14.25	12.34	4.44	14.16	12.86	4.33	14.10	13.32
5.59	14.81	10.13	5.37	14.47	11.29	5.20	14.31	12.02	5.06	14.20	12.60	4.93	14.13	13.09	4.81	14.08	13.53
6.12	14.67	10.57	5.90	14.41	11.55	5.72	14.27	12.23	5.57	14.17	12.78	5.43	14.11	13.25	5.29	14.06	13.68
8.93	14.46	11.34	8.64	14.29	12.09	8.40	14.19	12.68	8.17	14.12	13.18	7.97	14.07	13.62	7.77	14.03	14.03
-	-	-	-	-	-	-	-	-	-	-	-	3.45	17.09	8.93	3.29	16.53	10.80
-	-	-	-	-	-	-	-	-	4.08	16.85	9.65	3.91	16.45	11.14	3.80	16.27	12.03
-	-	-	-	-	-	-	-	-	4.60	16.50	10.91	4.45	16.29	11.89	4.33	16.17	12.63
-	-	-	-	-	-	5.36	16.69	10.17	5.16	16.38	11.47	5.01	16.22	12.31	4.87	16.12	12.99
-	-	-	-	-	-	5.94	16.55	10.72	5.74	16.31	11.81	5.57	16.18	12.58	5.43	16.10	13.22
-	-	-	-	-	-	6.54	16.47	11.05	6.32	16.27	12.03	6.15	16.15	12.77	5.98	16.08	13.39
-	-	-	9.98	16.61	10.47	9.60	16.33	11.70	9.31	16.19	12.52	9.06	16.10	13.19	8.82	16.05	13.76
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.65	18.74	9.71
-	-	-	-	-	-	-	-	-	-	-	-	4.37	18.71	9.82	4.20	18.34	11.44
-	-	-	-	-	-	-	-	-	-	-	-	4.96	18.42	11.01	4.81	18.22	12.16
-	-	-	-	-	-	-	-	-	5.81	18.68	9.93	5.59	18.31	11.57	5.42	18.16	12.57
-	-	-	-	-	-	-	-	-	6.45	18.53	10.54	6.23	18.26	11.90	6.05	18.13	12.84
-	-	-	-	-	-	-	-	-	7.11	18.45	10.90	6.87	18.22	12.13	6.68	18.10	13.02
-	-	-	-	-	-	10.93	18.71	9.81	10.47	18.31	11.59	10.15	18.15	12.63	9.87	18.07	13.44
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.62	20.45	10.62
-	-	-	-	-	-	-	-	-	-	-	-	5.52	20.76	9.33	5.29	20.28	11.55
-	-	-	-	-	-	-	-	-	-	-	-	6.19	20.50	10.41	5.97	20.21	12.05
-	-	-	-	-	-	-	-	-	-	-	-	6.89	20.40	10.92	6.67	20.17	12.36
-	-	-	-	-	-	-	-	-	-	-	-	7.61	20.34	11.23	7.37	20.14	12.57
-	-	-	-	-	-	-	-	-	11.71	20.61	9.91	11.25	20.23	11.87	10.92	20.09	13.03
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.07	22.74	9.11
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.78	22.40	10.69
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.53	22.29	11.35
-	-	-	-	-	-	-	-	-	-	-	-	7.66	22.88	8.56	7.29	22.23	11.73
-	-	-	-	-	-	-	-	-	-	-	-	8.39	22.62	9.60	8.06	22.20	11.98
-	-	-	-	-	-	-	-	-	-	-	-	12.37	22.39	10.73	11.95	22.13	12.53

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(s) $\epsilon_p = 15°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Continued

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
24	59.83	28.06	14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			27.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	62.05	29.75	18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			27.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	64.04	31.48	30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES-Continued

(s) $\epsilon_p = 15°$; $\Gamma = 0°$; $\epsilon_r = 0°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.30	24.68	9.07
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.09	24.43	10.29
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.92	24.34	10.85
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.75	24.28	11.18
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.99	24.19	11.87
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.58	26.59	9.21
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.47	26.46	9.90
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.03	26.29	10.94
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.13	28.55	9.21

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(f) $\epsilon_p = 15°$; $\Gamma = 5°$; $\epsilon_r = 1.34°$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	7.71	15.01	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	14.74	11.63	1.21	2.71	13.05	1.68	.7627	5.42	1 .84	11.36	1.18	2.64	13.15	1.46	.7633	5.63
			7.0	14.88	10.00	1.22	2.39	13.56	1.60	.7575	6.32	1 .94	9.79	1.19	2.36	13.61	1.48	.7553	6.57
			8.0	14.93	8.87	1.23	2.26	13.82	1.65	.7427	7.18	1 .97	8.67	1.21	2.24	13.86	1.53	.7392	7.48
			10.0	14.97	7.36	1.28	2.14	14.11	1.80	.7074	8.82	1 .99	7.17	1.25	2.13	14.14	1.65	.7015	9.25
			12.0	14.98	6.38	1.33	2.09	14.27	1.98	.6718	10.38	1 .00	6.20	1.30	2.08	14.30	1.79	.6634	10.97
			14.0	14.99	5.70	1.39	2.06	14.37	2.17	.6380	11.86	1 .00	5.51	1.35	2.05	14.40	1.95	.6270	12.64
			16.0	14.99	5.20	1.45	2.04	14.45	2.38	.6068	13.27	1 .00	5.01	1.40	2.03	14.47	2.11	.5932	14.26
			18.0	14.99	4.82	1.51	2.03	14.50	2.61	.5783	14.61	1 .00	4.63	1.45	2.02	14.53	2.29	.5618	15.82
			20.0	14.99	4.52	1.58	2.02	14.54	2.86	.5522	15.88	1 .01	4.33	1.51	2.02	14.57	2.49	.5330	17.33
			30.0	15.00	3.67	1.92	2.00	14.66	4.37	.4537	21.27	1 .01	3.46	1.81	2.00	14.69	3.66	.4209	24.14
4	15.34	15.23	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	14.44	12.44	1.51	5.14	11.45	2.59	.5804	5.62	1 .84	11.69	1.42	4.84	11.96	2.18	.5806	6.13
			8.0	14.82	10.98	1.52	4.69	12.35	2.65	.5737	6.41	1 .02	10.43	1.45	4.50	12.62	2.28	.5643	6.98
			10.0	15.01	9.34	1.62	4.31	13.07	3.04	.5354	7.76	1 .12	8.86	1.54	4.24	13.25	2.60	.5181	8.54
			12.0	15.07	8.36	1.75	4.19	13.43	3.56	.4968	8.95	1 .16	7.90	1.65	4.14	13.58	3.00	.4733	9.99
			14.0	15.10	7.71	1.88	4.13	13.64	4.17	.4630	10.01	1 .17	7.25	1.77	4.09	13.79	3.47	.4338	11.33
			16.0	15.12	7.26	2.02	4.09	13.79	4.86	.4344	10.94	1 .18	6.78	1.89	4.06	13.93	4.00	.3999	12.57
			18.0	15.13	6.92	2.17	4.07	13.89	5.63	.4103	11.77	1 .19	6.44	2.02	4.04	14.03	4.59	.3711	13.72
			20.0	15.13	6.66	2.32	4.05	13.97	6.48	.3901	12.50	1 .19	6.18	2.15	4.03	14.11	5.24	.3465	14.77
			30.0	15.15	5.99	3.13	4.02	14.16	12.01	.3274	15.06	1 .20	5.48	2.86	4.01	14.30	9.41	.2682	18.81
6	22.65	15.69	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	1 .06	12.56	1.74	6.93	11.01	3.36	.4421	6.43
			10.0	15.04	11.78	2.04	6.65	11.62	4.96	.4307	6.72	1 .42	10.80	1.87	6.39	12.26	3.93	.4039	7.82
			12.0	15.26	10.72	2.23	6.38	12.30	5.98	.4012	7.63	1 .51	9.85	2.05	6.22	12.79	4.74	.3646	9.01
			14.0	15.35	10.08	2.45	6.26	12.67	7.26	.3756	8.36	1 .55	9.23	2.25	6.14	13.10	5.72	.3318	10.05
			16.0	15.39	9.65	2.68	6.20	12.89	8.75	.3550	8.96	1 .58	8.81	2.45	6.10	13.31	6.84	.3054	10.95
			18.0	15.42	9.35	2.92	6.16	13.05	10.44	.3386	9.46	1 .59	8.51	2.66	6.07	13.45	8.11	.2842	11.74
			20.0	15.44	9.12	3.17	6.13	13.16	12.33	.3254	9.87	1 .60	8.28	2.88	6.06	13.55	9.52	.2670	12.42
			30.0	15.48	8.57	4.47	6.08	13.42	24.73	.2884	11.12	1 .62	7.71	4.03	6.02	13.81	18.74	.2181	14.71
8	29.45	16.38	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	1 .75	13.07	2.26	8.69	10.87	5.80	.3296	7.07
			12.0	14.97	13.94	2.89	9.11	9.93	10.21	.3405	6.27	1 .00	12.03	2.50	8.38	11.77	7.13	.2998	8.04
			14.0	15.47	12.95	3.14	8.65	10.98	12.06	.3270	6.89	1 .10	11.43	2.77	8.25	12.23	8.81	.2750	8.83
			16.0	15.64	12.45	3.45	8.49	11.49	14.64	.3139	7.31	1 .14	11.03	3.06	8.18	12.51	10.77	.2556	9.48
			18.0	15.73	12.13	3.78	8.40	11.69	17.64	.3033	7.62	1 .17	10.76	3.36	8.14	12.70	13.00	.2405	10.01
			20.0	15.78	11.90	4.12	8.35	11.87	21.03	.2950	7.87	1 .19	10.55	3.66	8.11	12.83	15.49	.2288	10.45
			30.0	15.89	11.37	5.92	8.24	12.27	43.52	.2723	8.56	1 .23	10.06	5.24	8.06	13.14	31.89	.1970	11.79
10	35.64	17.27	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	1 .40	14.61	3.03	10.77	10.06	10.53	.2576	7.07
			14.0	-	-	-	-	-	-	-	-	1 .68	13.88	3.36	10.48	10.92	12.99	.2406	7.70
			16.0	-	-	-	-	-	-	-	-	1 .79	13.46	3.72	10.35	11.35	16.01	.2268	8.18
			18.0	-	-	-	-	-	-	-	-	1 .86	13.18	4.10	10.28	11.62	19.48	.2162	8.55
			20.0	-	-	-	-	-	-	-	-	1 .90	12.98	4.49	10.24	11.81	23.38	.2079	8.85
			30.0	15.59	15.13	7.83	11.06	9.36	76.40	.2632	6.47	1 .97	12.52	6.50	10.15	12.22	49.18	.1864	9.68
12	41.20	18.33	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	1 .35	16.02	4.97	12.72	9.61	28.61	.2005	7.24
			20.0	-	-	-	-	-	-	-	-	1 .50	15.73	5.42	12.58	10.03	34.13	.1950	7.47
			30.0	-	-	-	-	-	-	-	-	1 .72	15.17	7.85	12.37	10.77	71.76	.1802	8.06
14	46.12	19.53	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	50.48	20.85	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	54.32	22.27	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	57.70	23.77	14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	60.71	25.33	18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	63.38	26.95	30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(f) $\epsilon_p = 15°$; $\Gamma = 5°$; $\epsilon_r = 1.34°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.20	3.96	11.46
1.18	2.63	13.17	1.17	2.62	13.18	1.17	2.61	13.20	1.16	2.60	13.21	1.16	2.59	13.23	1.15	2.58	13.24
1.19	2.36	13.62	1.18	2.35	13.63	1.18	2.35	13.64	1.17	2.34	13.65	1.17	2.34	13.66	1.16	2.33	13.67
1.20	2.24	13.87	1.20	2.23	13.87	1.19	2.23	13.88	1.19	2.23	13.89	1.18	2.22	13.90	1.18	2.22	13.90
1.24	2.13	14.14	1.24	2.12	14.15	1.23	2.12	14.16	1.22	2.12	14.16	1.22	2.12	14.17	1.21	2.12	14.17
1.29	2.08	14.30	1.28	2.07	14.31	1.27	2.07	14.31	1.27	2.07	14.32	1.26	2.07	14.32	1.25	2.07	14.33
1.34	2.05	14.41	1.33	2.05	14.41	1.32	2.05	14.42	1.31	2.05	14.42	1.30	2.04	14.43	1.30	2.04	14.43
1.39	2.03	14.48	1.38	2.03	14.48	1.37	2.03	14.49	1.36	2.03	14.49	1.35	2.03	14.50	1.34	2.03	14.50
1.44	2.02	14.53	1.43	2.02	14.54	1.42	2.02	14.54	1.41	2.02	14.55	1.40	2.02	14.55	1.39	2.02	14.56
1.50	2.02	14.58	1.48	2.02	14.58	1.47	2.01	14.59	1.46	2.01	14.59	1.45	2.01	14.60	1.43	2.01	14.60
1.79	2.00	14.70	1.77	2.00	14.70	1.75	2.00	14.71	1.73	2.00	14.71	1.71	2.00	14.72	1.69	2.00	14.72
-	-	-	-	-	-	1.42	5.97	10.26	1.38	5.70	10.64	1.36	5.54	10.86	1.34	5.42	11.03
1.41	4.80	12.03	1.39	4.77	12.09	1.38	4.76	12.15	1.37	4.71	12.20	1.36	4.68	12.26	1.34	4.65	12.31
1.43	4.48	12.66	1.42	4.46	12.70	1.41	4.44	12.74	1.40	4.43	12.78	1.39	4.41	12.82	1.37	4.40	12.85
1.53	4.23	13.28	1.51	4.22	13.31	1.50	4.21	13.34	1.48	4.20	13.37	1.47	4.19	13.40	1.46	4.19	13.42
1.63	4.13	13.61	1.61	4.13	13.64	1.60	4.12	13.66	1.58	4.11	13.69	1.56	4.11	13.71	1.55	4.10	13.74
1.75	4.08	13.81	1.73	4.08	13.84	1.71	4.07	13.86	1.69	4.07	13.89	1.67	4.06	13.91	1.65	4.06	13.94
1.87	4.06	13.95	1.84	4.05	13.98	1.82	4.05	14.00	1.80	4.04	14.03	1.78	4.04	14.05	1.75	4.03	14.07
1.99	4.04	14.06	1.97	4.03	14.08	1.94	4.03	14.10	1.91	4.03	14.13	1.89	4.02	14.15	1.86	4.02	14.18
2.12	4.03	14.13	2.09	4.02	14.16	2.06	4.02	14.18	2.03	4.02	14.20	2.00	4.01	14.23	1.98	4.01	14.25
2.82	4.00	14.33	2.77	4.00	14.36	2.72	4.00	14.38	2.67	4.00	14.41	2.63	3.99	14.43	2.58	3.99	14.45
-	-	-	-	-	-	1.64	7.51	9.98	1.61	7.30	10.34	1.58	7.16	10.59	1.55	7.05	10.80
1.71	6.85	11.19	1.68	6.77	11.35	1.66	6.71	11.48	1.64	6.65	11.61	1.61	6.60	11.73	1.59	6.56	11.83
1.85	6.36	12.35	1.82	6.33	12.44	1.80	6.31	12.52	1.77	6.28	12.60	1.75	6.26	12.68	1.72	6.24	12.75
2.02	6.20	12.87	1.99	6.18	12.94	1.96	6.17	13.02	1.93	6.15	13.09	1.91	6.13	13.15	1.88	6.12	13.22
2.21	6.13	13.18	2.18	6.11	13.25	2.14	6.10	13.31	2.11	6.09	13.38	2.08	6.08	13.44	2.04	6.07	13.50
2.41	6.09	13.38	2.37	6.08	13.44	2.33	6.06	13.51	2.29	6.05	13.57	2.26	6.04	13.63	2.22	6.04	13.69
2.62	6.06	13.52	2.57	6.05	13.58	2.53	6.04	13.65	2.48	6.03	13.71	2.44	6.03	13.77	2.40	6.02	13.83
2.83	6.05	13.62	2.78	6.04	13.69	2.73	6.03	13.75	2.68	6.02	13.81	2.63	6.01	13.87	2.59	6.01	13.93
3.95	6.01	13.87	3.87	6.01	13.94	3.79	6.00	14.00	3.72	6.00	14.06	3.64	5.99	14.12	3.57	5.99	14.19
-	-	-	-	-	-	1.97	9.30	9.54	1.91	9.04	10.08	1.87	8.87	10.44	1.83	8.75	10.73
2.21	8.59	11.14	2.17	8.51	11.38	2.12	8.44	11.58	2.09	8.38	11.77	2.05	8.33	11.94	2.01	8.28	12.10
2.45	8.32	11.96	2.40	8.27	12.13	2.36	8.23	12.29	2.32	8.19	12.44	2.27	8.16	12.58	2.23	8.14	12.72
2.72	8.21	12.39	2.67	8.17	12.54	2.62	8.14	12.69	2.57	8.11	12.83	2.52	8.09	12.96	2.47	8.07	13.08
3.00	8.15	12.66	2.94	8.12	12.80	2.88	8.09	12.94	2.83	8.07	13.07	2.77	8.05	13.20	2.72	8.04	13.32
3.29	8.11	12.84	3.22	8.09	12.98	3.16	8.07	13.11	3.10	8.05	13.24	3.03	8.03	13.36	2.97	8.02	13.48
3.59	8.09	12.97	3.51	8.07	13.11	3.44	8.05	13.24	3.37	8.03	13.36	3.30	8.02	13.48	3.23	8.00	13.60
5.13	8.04	13.28	5.02	8.03	13.41	4.91	8.01	13.53	4.80	8.00	13.66	4.70	7.99	13.77	4.59	7.98	13.89
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.10	11.12	9.21
-	-	-	2.57	10.93	9.65	2.49	10.69	10.29	2.43	10.53	10.73	2.37	10.42	11.10	2.32	10.34	11.40
2.93	10.57	10.62	2.86	10.44	11.04	2.79	10.34	11.38	2.72	10.27	11.68	2.66	10.21	11.95	2.61	10.16	12.19
3.27	10.36	11.30	3.19	10.28	11.63	3.12	10.21	11.92	3.05	10.16	12.18	2.98	10.12	12.41	2.92	10.08	12.63
3.63	10.27	11.68	3.54	10.20	11.97	3.46	10.15	12.24	3.39	10.10	12.48	3.31	10.07	12.70	3.24	10.04	12.91
4.00	10.21	11.93	3.91	10.15	12.20	3.82	10.11	12.45	3.73	10.07	12.68	3.65	10.04	12.90	3.57	10.02	13.10
4.38	10.17	12.10	4.28	10.12	12.36	4.18	10.08	12.60	4.09	10.05	12.82	3.99	10.03	13.04	3.91	10.01	13.24
6.35	10.10	12.48	6.19	10.07	12.72	6.05	10.04	12.95	5.91	10.01	13.16	5.77	9.99	13.38	5.64	9.98	13.56
-	-	-	-	-	-	-	-	-	2.82	12.95	8.98	2.72	12.60	9.98	2.64	12.42	10.60
-	-	-	3.40	13.01	8.84	3.25	12.59	10.03	3.15	12.40	10.69	3.07	12.27	11.19	3.00	12.19	11.61
3.93	12.88	9.16	3.76	12.53	10.22	3.65	12.35	10.86	3.55	12.24	11.35	3.46	12.16	11.77	3.38	12.10	12.14
4.33	12.57	10.08	4.19	12.37	10.78	4.07	12.25	11.30	3.96	12.16	11.74	3.87	12.10	12.12	3.77	12.05	12.46
4.77	12.45	10.51	4.63	12.29	11.11	4.50	12.19	11.58	4.39	12.12	11.99	4.28	12.07	12.35	4.18	12.03	12.67
5.23	12.37	10.78	5.08	12.24	11.32	4.94	12.16	11.77	4.82	12.09	12.16	4.70	12.04	12.51	4.59	12.01	12.83
7.61	12.24	11.34	7.40	12.15	11.80	7.21	12.09	12.20	7.03	12.04	12.55	6.86	12.01	12.88	6.69	11.98	13.18
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.98	14.58	9.53
-	-	-	-	-	-	-	-	-	3.64	14.74	8.98	3.50	14.40	10.18	3.40	14.24	10.92
-	-	-	-	-	-	4.26	14.78	8.88	4.08	14.40	10.19	3.95	14.23	10.96	3.85	14.12	11.56
-	-	-	-	-	-	4.72	14.49	9.84	4.56	14.27	10.74	4.43	14.15	11.40	4.32	14.07	11.94
-	-	-	5.46	14.75	8.98	5.22	14.37	10.30	5.06	14.21	11.07	4.92	14.11	11.67	4.79	14.04	12.18
-	-	-	5.96	14.58	9.53	5.74	14.31	10.58	5.57	14.17	11.29	5.42	14.08	11.86	5.28	14.02	12.35
9.08	14.73	9.03	8.68	14.35	10.39	8.40	14.19	11.17	8.16	14.09	11.78	7.94	14.03	12.29	7.74	13.99	12.74
-	-	-	-	-	-	-	-	-	-	-	-	3.98	16.79	8.26	3.81	16.33	10.04
-	-	-	-	-	-	-	-	-	-	-	-	4.47	16.37	9.82	4.33	16.17	10.86
-	-	-	-	-	-	-	-	-	5.21	16.56	9.05	5.01	16.25	10.44	4.87	16.10	11.31
-	-	-	-	-	-	-	-	-	5.77	16.41	9.67	5.57	16.18	10.80	5.42	16.06	11.60
-	-	-	-	-	-	-	-	-	6.35	16.33	10.03	6.14	16.14	11.04	5.97	16.04	11.79
-	-	-	-	-	-	9.67	16.46	9.46	9.32	16.19	10.72	9.04	16.07	11.56	8.80	16.00	12.24
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.24	18.54	8.65
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.82	18.26	9.94
-	-	-	-	-	-	-	-	-	-	-	-	5.63	18.48	8.87	5.42	18.16	10.52
-	-	-	-	-	-	-	-	-	-	-	-	6.25	18.34	9.52	6.04	18.10	10.88
-	-	-	-	-	-	-	-	-	-	-	-	6.89	18.27	9.88	6.67	18.07	11.11
-	-	-	-	-	-	-	-	-	10.56	18.48	8.88	10.15	18.15	10.60	9.85	18.02	11.63
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.33	20.47	8.43
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.99	20.27	9.44
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.67	20.18	9.93
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.37	20.14	10.24
-	-	-	-	-	-	-	-	-	-	-	-	11.30	20.33	9.09	10.90	20.05	10.88
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.33	22.38	8.39
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.09	22.27	8.96
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.95	22.13	9.90
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.05	24.31	8.27

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(u) $\epsilon_p = 15°$; $\Gamma = 10°$; $\epsilon_r = 2.71°$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	7.62	15.02	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			6.0	14.75	11.60	1.21	2.67	13.08	1.57	.7652	5.43	14.84	11.34	1.18	2.61	13.18	1.46	.7657	5.64
			7.0	14.89	9.98	1.21	2.37	13.58	1.54	.7596	6.33	14.94	9.77	1.19	2.34	13.63	1.48	.7577	6.47
			8.0	14.94	8.85	1.23	2.23	13.84	1.65	.7451	7.19	14.97	8.66	1.20	2.21	13.88	1.52	.7416	7.49
			10.0	14.97	7.34	1.28	2.11	14.12	1.78	.7102	8.83	14.99	7.15	1.25	2.10	14.15	1.64	.7041	9.26
			12.0	14.98	6.36	1.33	2.06	14.28	1.96	.6745	10.40	15.00	6.18	1.29	2.05	14.31	1.78	.6662	10.99
			14.0	14.99	5.68	1.39	2.03	14.38	2.15	.6439	11.89	15.00	5.50	1.34	2.03	14.41	1.93	.6301	12.66
			16.0	14.99	5.18	1.44	2.02	14.46	2.36	.6097	13.30	15.01	4.99	1.39	2.01	14.48	2.10	.5963	14.28
			18.0	14.99	4.83	1.51	2.01	14.51	2.59	.5812	14.65	15.01	4.61	1.45	2.00	14.54	2.27	.5651	15.85
			20.0	15.00	4.50	1.57	2.00	14.55	2.83	.5552	15.92	15.01	4.31	1.50	1.99	14.58	2.46	.5362	17.36
			30.0	15.00	3.65	1.91	1.98	14.67	4.31	.4564	21.36	15.01	3.44	1.80	1.98	14.70	3.61	.4241	24.21
4	15.34	15.05	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	14.21	12.46	1.51	5.17	11.19	2.60	.5792	5.61	14.64	11.89	1.42	4.83	11.74	2.18	.5813	6.14
			8.0	14.64	10.95	1.52	4.60	12.16	2.64	.5751	6.41	14.84	10.40	1.44	4.47	12.43	2.27	.5662	6.98
			10.0	14.84	9.30	1.62	4.27	12.90	3.02	.5377	7.78	14.95	8.82	1.53	4.20	13.08	2.58	.5208	8.55
			12.0	14.90	8.32	1.74	4.14	13.25	3.52	.4993	8.98	14.98	7.86	1.64	4.10	13.41	2.97	.4762	10.01
			14.0	14.93	7.67	1.87	4.08	13.47	4.11	.4656	10.04	15.00	7.21	1.76	4.05	13.62	3.43	.4368	11.36
			16.0	14.94	7.21	2.01	4.05	13.62	4.79	.4368	10.99	15.01	6.74	1.88	4.02	13.76	3.95	.4028	12.61
			18.0	14.95	6.87	2.15	4.02	13.72	5.55	.4126	11.83	15.01	6.40	2.01	4.00	13.86	4.53	.3738	13.76
			20.0	14.96	6.61	2.30	4.01	13.80	6.38	.3922	12.57	15.02	6.13	2.14	3.99	13.94	5.16	.3491	14.82
			30.0	14.97	5.93	3.10	3.98	14.00	11.78	.3288	15.17	15.03	5.43	2.84	3.96	14.14	9.24	.2701	18.92
6	22.89	15.35	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	14.62	12.61	1.75	6.99	10.45	3.39	.4398	6.42
			10.0	14.64	11.77	2.04	6.64	11.16	4.95	.4309	6.73	15.06	10.36	1.87	6.36	11.85	3.90	.4056	7.83
			12.0	14.90	10.67	2.22	6.33	11.90	5.93	.4026	7.66	15.16	9.79	2.04	6.17	12.41	4.69	.3667	9.03
			14.0	14.99	10.02	2.44	6.21	12.28	7.17	.3772	8.40	15.21	9.17	2.23	6.08	12.73	5.64	.3340	10.08
			16.0	15.04	9.58	2.66	6.14	12.52	8.63	.3565	9.01	15.23	8.75	2.43	6.04	12.94	6.74	.3074	11.00
			18.0	15.07	9.28	2.90	6.10	12.68	10.28	.3399	9.52	15.25	8.44	2.64	6.01	13.09	7.98	.2860	11.80
			20.0	15.09	9.05	3.15	6.07	12.80	12.12	.3267	9.94	15.26	8.21	2.86	5.99	13.20	9.36	.2688	12.49
			30.0	15.14	8.48	4.43	6.01	13.07	24.25	.2892	11.22	15.27	7.64	3.99	5.95	13.46	18.37	.2191	14.83
8	30.05	15.89	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	15.13	13.12	2.27	8.74	10.03	5.85	.3284	7.05
			12.0	-	-	-	-	-	-	-	-	15.46	11.99	2.49	8.33	11.11	7.08	.3008	8.06
			14.0	14.83	13.00	3.15	8.69	10.16	16.15	.3265	6.87	15.58	11.36	2.76	8.18	11.62	8.71	.2762	8.86
			16.0	15.06	12.43	3.44	8.47	10.72	14.58	.3141	7.32	15.63	10.95	3.04	8.11	11.92	10.62	.2568	9.53
			18.0	15.17	12.08	3.77	8.36	11.04	17.49	.3037	7.65	15.66	10.67	3.33	8.06	12.12	12.79	.2417	10.07
			20.0	15.24	11.84	4.10	8.29	11.24	20.80	.2954	7.91	15.69	10.46	3.63	8.03	12.26	15.27	.2298	10.52
			30.0	15.37	11.28	5.87	8.17	11.68	42.83	.2727	8.62	15.73	9.96	5.19	7.98	12.59	31.26	.1976	11.90
10	36.66	16.64	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	15.92	13.89	3.36	10.49	9.86	13.01	.2405	7.70
			16.0	-	-	-	-	-	-	-	-	16.09	13.41	3.71	10.31	10.42	15.90	.2272	8.20
			18.0	-	-	-	-	-	-	-	-	16.17	13.11	4.08	10.22	10.74	19.27	.2167	8.59
			20.0	-	-	-	-	-	-	-	-	16.22	12.90	4.46	10.16	10.95	23.08	.2085	8.90
			30.0	-	-	-	-	-	-	-	-	16.32	12.41	6.45	10.06	11.42	48.34	.1867	9.76
12	42.66	17.59	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	16.82	15.17	7.85	12.37	9.44	71.70	.1802	8.07
14	48.01	18.70	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	52.75	19.94	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	56.93	21.29	14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	60.62	22.74	18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(u) $\epsilon_p = 15°$; $\Gamma = 10°$; $\epsilon_r = 2.71°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.19	3.82	11.62
1.17	2.60	13.19	1.17	2.59	13.21	1.17	2.58	13.23	1.16	2.57	13.24	1.16	2.56	13.26	1.15	2.55	13.27
1.18	2.33	13.64	1.18	2.33	13.65	1.17	2.32	13.66	1.17	2.32	13.67	1.16	2.31	13.68	1.16	2.31	13.69
1.20	2.21	13.88	1.19	2.21	13.89	1.19	2.20	13.90	1.18	2.20	13.91	1.18	2.20	13.91	1.17	2.20	13.92
1.24	2.10	14.16	1.23	2.10	14.16	1.23	2.10	14.17	1.22	2.10	14.17	1.22	2.09	14.18	1.21	2.09	14.19
1.28	2.05	14.31	1.28	2.05	14.32	1.27	2.05	14.32	1.26	2.05	14.33	1.26	2.05	14.33	1.25	2.05	14.34
1.33	2.03	14.42	1.32	2.02	14.42	1.32	2.02	14.43	1.31	2.02	14.43	1.30	2.02	14.44	1.29	2.02	14.44
1.38	2.01	14.49	1.37	2.01	14.49	1.36	2.01	14.50	1.36	2.01	14.50	1.35	2.01	14.51	1.34	2.01	14.51
1.44	2.00	14.54	1.42	2.00	14.55	1.41	2.00	14.55	1.40	2.00	14.56	1.39	2.00	14.56	1.38	2.00	14.57
1.49	1.99	14.58	1.48	1.99	14.59	1.47	1.99	14.59	1.45	1.99	14.60	1.44	1.99	14.60	1.43	1.99	14.61
1.78	1.98	14.70	1.76	1.98	14.71	1.74	1.98	14.71	1.72	1.98	14.72	1.70	1.98	14.72	1.68	1.98	14.73
-	-	-	-	-	-	-	-	-	1.40	5.91	10.13	1.37	5.65	10.49	1.35	5.49	10.71
1.40	4.79	11.81	1.39	4.75	11.88	1.38	4.72	11.94	1.37	4.69	12.00	1.35	4.66	12.06	1.34	4.63	12.11
1.43	4.45	12.47	1.42	4.43	12.52	1.41	4.41	12.56	1.39	4.39	12.59	1.38	4.38	12.63	1.37	4.36	12.67
1.52	4.19	13.11	1.51	4.18	13.14	1.49	4.17	13.17	1.48	4.16	13.19	1.46	4.15	13.22	1.45	4.15	13.25
1.62	4.09	13.44	1.61	4.08	13.46	1.59	4.08	13.49	1.57	4.07	13.51	1.56	4.06	13.54	1.54	4.06	13.56
1.74	4.04	13.64	1.72	4.03	13.67	1.70	4.03	13.69	1.68	4.02	13.72	1.66	4.02	13.74	1.64	4.02	13.76
1.86	4.01	13.78	1.83	4.01	13.81	1.81	4.00	13.83	1.79	4.00	13.86	1.77	3.99	13.88	1.74	3.99	13.90
1.98	3.99	13.89	1.95	3.99	13.91	1.93	3.99	13.93	1.90	3.98	13.96	1.88	3.98	13.98	1.85	3.98	14.00
2.11	3.98	13.96	2.08	3.98	13.99	2.05	3.97	14.01	2.02	3.97	14.03	1.99	3.97	14.06	1.96	3.97	14.08
2.79	3.96	14.16	2.74	3.95	14.19	2.70	3.95	14.21	2.65	3.95	14.24	2.61	3.95	14.26	2.56	3.95	14.28
-	-	-	-	-	-	-	-	-	1.63	7.53	9.51	1.59	7.29	9.92	1.56	7.13	10.20
1.71	6.88	10.67	1.69	6.79	10.85	1.66	6.71	11.00	1.63	6.65	11.14	1.61	6.59	11.27	1.59	6.54	11.39
1.84	6.32	11.94	1.81	6.29	12.04	1.79	6.26	12.12	1.76	6.23	12.21	1.74	6.21	12.29	1.72	6.18	12.36
2.01	6.15	12.49	1.98	6.13	12.57	1.95	6.11	12.64	1.92	6.09	12.71	1.89	6.07	12.78	1.87	6.06	12.84
2.20	6.07	12.81	2.16	6.05	12.88	2.13	6.04	12.95	2.10	6.02	13.01	2.06	6.01	13.08	2.03	6.00	13.14
2.39	6.02	13.01	2.35	6.01	13.08	2.31	6.00	13.15	2.28	5.99	13.21	2.24	5.98	13.27	2.20	5.97	13.33
2.60	6.00	13.16	2.55	5.99	13.22	2.51	5.98	13.29	2.47	5.97	13.35	2.42	5.96	13.41	2.38	5.95	13.47
2.81	5.98	13.26	2.76	5.97	13.33	2.71	5.96	13.39	2.66	5.95	13.46	2.61	5.95	13.52	2.56	5.94	13.58
3.91	5.95	13.52	3.83	5.94	13.59	3.76	5.93	13.65	3.68	5.93	13.72	3.61	5.92	13.78	3.53	5.92	13.84
-	-	-	-	-	-	-	-	-	1.95	9.35	8.79	1.88	9.00	9.47	1.84	8.82	9.87
2.21	8.60	10.38	2.16	8.49	10.66	2.12	8.41	10.89	2.08	8.34	11.10	2.04	8.28	11.29	2.00	8.23	11.46
2.44	8.27	11.32	2.39	8.21	11.51	2.35	8.17	11.68	2.30	8.13	11.84	2.26	8.09	11.99	2.22	8.06	12.13
2.70	8.14	11.79	2.65	8.10	11.95	2.60	8.07	12.10	2.55	8.04	12.25	2.50	8.01	12.38	2.45	7.99	12.51
2.98	8.07	12.08	2.92	8.04	12.24	2.86	8.01	12.37	2.80	7.99	12.51	2.75	7.97	12.64	2.70	7.95	12.76
3.26	8.03	12.27	3.20	8.00	12.42	3.13	7.98	12.55	3.07	7.96	12.68	3.01	7.94	12.81	2.95	7.93	12.93
3.56	8.01	12.41	3.48	7.98	12.55	3.41	7.96	12.68	3.34	7.94	12.81	3.27	7.93	12.94	3.20	7.92	13.06
5.08	7.95	12.73	4.97	7.94	12.87	4.86	7.92	13.00	4.75	7.91	13.12	4.65	7.90	13.24	4.55	7.89	13.36
-	-	-	-	-	-	2.52	10.84	8.92	2.43	10.57	9.62	2.37	10.41	10.09	2.31	10.30	10.46
2.95	10.64	9.44	2.85	10.43	10.02	2.78	10.30	10.44	2.71	10.20	10.79	2.65	10.13	11.09	2.59	10.07	11.36
3.26	10.33	10.35	3.17	10.22	10.74	3.10	10.14	11.06	3.03	10.07	11.35	2.96	10.02	11.61	2.89	9.98	11.85
3.61	10.20	10.80	3.52	10.12	11.13	3.44	10.06	11.42	3.36	10.01	11.68	3.28	9.97	11.92	3.21	9.94	12.15
3.98	10.13	11.08	3.88	10.07	11.39	3.79	10.01	11.66	3.70	9.97	11.90	3.62	9.94	12.13	3.54	9.91	12.35
4.35	10.09	11.27	4.24	10.03	11.56	4.14	9.98	11.82	4.05	9.95	12.06	3.96	9.92	12.28	3.87	9.90	12.49
6.29	10.01	11.70	6.13	9.96	11.96	5.99	9.93	12.20	5.85	9.90	12.42	5.71	9.88	12.63	5.58	9.87	12.84
-	-	-	-	-	-	-	-	-	-	-	-	2.76	12.85	8.03	2.64	12.44	9.19
-	-	-	-	-	-	3.31	12.86	8.00	3.16	12.41	9.31	3.06	12.22	9.98	2.98	12.10	10.49
-	-	-	3.80	12.68	8.49	3.64	12.33	9.56	3.53	12.17	10.19	3.44	12.06	10.68	3.35	11.98	11.10
4.44	12.93	7.84	4.18	12.37	9.44	4.05	12.18	10.13	3.94	12.07	10.65	3.83	11.99	11.08	3.74	11.93	11.46
4.79	12.50	9.02	4.61	12.24	9.89	4.47	12.10	10.47	4.35	12.01	10.94	4.24	11.95	11.34	4.14	11.90	11.70
5.23	12.37	9.44	5.05	12.17	10.16	4.91	12.06	10.70	4.78	11.98	11.14	4.66	11.92	11.52	4.54	11.88	11.87
7.57	12.17	10.19	7.34	12.05	10.74	7.14	11.97	11.19	6.96	11.91	11.58	6.78	11.87	11.93	6.62	11.85	12.26
-	-	-	-	-	-	-	-	-	-	-	-	3.52	14.51	8.19	3.38	14.18	9.40
-	-	-	-	-	-	-	-	-	4.10	14.50	8.19	3.94	14.16	9.46	3.82	14.01	10.22
-	-	-	-	-	-	-	-	-	4.55	14.24	9.15	4.40	14.05	10.03	4.28	13.94	10.67
-	-	-	-	-	-	5.25	14.44	8.40	5.04	14.13	9.62	4.88	13.98	10.37	4.75	13.90	10.96
-	-	-	-	-	-	5.74	14.30	8.91	5.53	14.07	9.91	5.37	13.95	10.60	5.23	13.87	11.16
-	-	-	8.70	14.39	8.57	8.35	14.10	9.76	8.09	13.96	10.50	7.87	13.88	11.09	7.66	13.83	11.60
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.83	16.45	7.58
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.31	16.08	9.08
-	-	-	-	-	-	-	-	-	-	-	-	5.01	16.23	8.43	4.83	15.97	9.70
-	-	-	-	-	-	-	-	-	-	-	-	5.55	16.10	9.01	5.37	15.92	10.07
-	-	-	-	-	-	-	-	-	6.41	16.50	7.41	6.10	16.03	9.35	5.92	15.88	10.31
-	-	-	-	-	-	-	-	-	9.28	16.12	8.90	8.96	15.92	10.04	8.71	15.82	10.84
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.86	18.43	6.84
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.40	18.08	8.34
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.00	17.98	8.90
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.62	17.93	9.24
-	-	-	-	-	-	-	-	-	-	-	-	10.10	18.05	8.48	9.75	17.84	9.92
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.72	20.34	6.40
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.35	20.08	7.56
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.81	19.89	8.71

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(v) $\epsilon_p = 15°$; $\Gamma = 20°$; $\epsilon_r = 5.60°$

α, deg	δ_N, deg	ϵ_e, deg	M_∞	$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
				θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	7.09	15.42	5.0	-	-	-	-	-	-	-	-	14.75	13.87	1.20	3.42	12.44	1.51	.7467	4.65
			6.0	15.21	11.43	1.19	2.47	13.71	1.52	.7803	5.47	15.29	11.20	1.17	2.42	13.78	1.42	.7801	5.66
			7.0	15.32	9.87	1.20	2.22	14.12	1.55	.7717	6.37	15.36	9.67	1.18	2.20	14.16	1.45	.7695	6.60
			8.0	15.35	8.75	1.22	2.11	14.34	1.60	.7563	7.23	15.38	8.57	1.19	2.10	14.37	1.49	.7530	7.51
			10.0	15.38	7.25	1.26	2.01	14.60	1.74	.7212	8.89	15.40	7.08	1.23	2.00	14.62	1.60	.7158	9.30
			12.0	15.39	6.28	1.31	1.96	14.74	1.90	.6860	10.47	15.40	6.10	1.28	1.95	14.76	1.73	.6784	11.03
			14.0	15.39	5.60	1.37	1.94	14.84	2.08	.6528	11.98	15.40	5.42	1.32	1.93	14.86	1.88	.6428	12.72
			16.0	15.39	5.10	1.42	1.92	14.90	2.28	.6219	13.42	15.41	4.92	1.37	1.92	14.93	2.03	.6094	14.35
			18.0	15.40	4.71	1.48	1.91	14.95	2.48	.5935	14.79	15.41	4.53	1.42	1.91	14.98	2.19	.5784	15.94
			20.0	15.40	4.41	1.54	1.90	14.99	2.71	.5674	16.10	15.41	4.23	1.47	1.90	15.02	2.37	.5497	17.48
			30.0	15.40	3.55	1.86	1.89	15.10	4.07	.4676	21.70	15.41	3.36	1.76	1.89	15.12	3.43	.4370	24.47
4	14.59	15.08	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			7.0	14.40	12.13	1.47	4.82	11.60	2.46	.5971	5.70	14.73	11.47	1.39	4.57	12.01	2.10	.5964	6.18
			8.0	14.72	10.73	1.49	4.36	12.40	2.52	.5888	6.49	14.89	10.22	1.42	4.25	12.63	2.19	.5801	7.03
			10.0	14.89	9.10	1.58	4.06	13.07	2.88	.5503	7.88	14.99	8.66	1.51	4.01	13.23	2.48	.5344	8.62
			12.0	14.94	8.12	1.70	3.95	13.41	3.35	.5114	9.11	15.02	7.69	1.61	3.91	13.54	2.86	.4896	10.10
			14.0	14.97	7.47	1.82	3.89	13.61	3.89	.4771	10.21	15.03	7.04	1.72	3.86	13.74	3.27	.4498	11.48
			16.0	14.98	7.01	1.95	3.86	13.75	4.51	.4476	11.19	15.04	6.57	1.83	3.83	13.87	3.74	.4153	12.76
			18.0	14.99	6.66	2.09	3.84	13.85	5.21	.4227	12.07	15.05	6.22	1.95	3.81	13.97	4.27	.3857	13.95
			20.0	15.00	6.40	2.23	3.82	13.92	5.97	.4016	12.85	15.05	5.94	2.07	3.80	14.05	4.85	.3603	15.05
			30.0	15.01	5.71	2.99	3.79	14.11	10.90	.3350	15.63	15.06	5.24	2.74	3.78	14.24	8.58	.2778	19.36
6	22.30	15.01	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	-	-	-	-	-	-	-	-	14.28	12.38	1.72	6.74	10.23	3.27	.4499	6.48
			10.0	14.34	11.45	1.99	6.35	11.00	4.68	.4409	6.85	14.72	10.51	1.82	6.08	11.63	3.71	.4171	7.92
			12.0	14.58	10.35	2.16	6.05	11.73	5.57	.4120	7.82	14.83	9.53	1.99	5.90	12.19	4.44	.3779	9.16
			14.0	14.67	9.69	2.36	5.92	12.10	6.70	.3857	8.60	14.87	8.90	2.17	5.81	12.51	5.30	.3444	10.25
			16.0	14.72	9.25	2.57	5.86	12.33	8.03	.3641	9.25	14.89	8.46	2.36	5.76	12.72	6.30	.3169	11.21
			18.0	14.75	8.94	2.80	5.82	12.49	9.53	.3467	9.80	14.91	8.15	2.55	5.74	12.87	7.43	.2946	12.05
			20.0	14.77	8.71	3.03	5.79	12.61	11.21	.3327	10.25	14.92	7.92	2.76	5.72	12.97	8.69	.2764	12.79
			30.0	14.81	8.13	4.24	5.73	12.88	22.24	.2926	11.65	14.94	7.33	3.83	5.68	13.23	16.91	.2236	15.31
8	29.95	15.19	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	14.29	12.91	2.24	8.54	9.16	5.66	.3335	7.11
			12.0	-	-	-	-	-	-	-	-	14.74	11.65	2.42	8.01	10.46	6.68	.3086	8.20
			14.0	14.07	12.63	3.06	8.39	9.50	11.47	.3309	7.03	14.87	10.99	2.67	7.84	11.00	8.14	.2836	9.06
			16.0	14.36	12.00	3.33	8.16	10.14	13.56	.3187	7.54	14.93	10.57	2.93	7.75	11.32	9.88	.2635	9.76
			18.0	14.48	11.63	3.63	8.00	10.48	16.21	.3079	7.91	14.97	10.27	3.21	7.70	11.53	11.86	.2475	10.35
			20.0	14.56	11.37	3.94	7.93	10.69	19.21	.2991	8.20	14.99	10.06	3.49	7.67	11.68	14.07	.2349	10.84
			30.0	14.69	10.79	5.62	7.80	11.15	39.24	.2747	8.99	15.04	9.54	4.97	7.61	12.03	28.67	.2004	12.35
10	37.31	15.62	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	14.67	13.62	3.30	10.25	8.41	12.52	.2433	7.81
			16.0	-	-	-	-	-	-	-	-	14.98	13.00	3.60	9.94	9.25	14.94	.2310	8.40
			18.0	-	-	-	-	-	-	-	-	15.10	12.65	3.94	9.82	9.66	17.96	.2203	8.84
			20.0	-	-	-	-	-	-	-	-	15.17	12.42	4.30	9.75	9.91	21.41	.2117	9.18
			30.0	-	-	-	-	-	-	-	-	15.29	11.89	6.18	9.62	10.45	44.42	.1885	10.15
12	44.18	16.28	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	50.45	17.15	14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	56.09	18.19	16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	61.09	19.37	30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Continued

(v) $\epsilon_p = 15°$; $\Gamma = 20°$; $\epsilon_r = 5.60°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.19	3.34	12.54	1.18	3.27	12.63	1.17	3.21	12.70	1.17	3.17	12.76	1.16	3.12	12.81	1.15	3.08	12.86
1.16	2.41	13.79	1.16	2.41	13.80	1.15	2.40	13.81	1.15	2.39	13.83	1.14	2.38	13.84	1.14	2.38	13.85
1.17	2.20	14.17	1.17	2.19	14.17	1.16	2.19	14.18	1.16	2.18	14.19	1.15	2.18	14.20	1.15	2.18	14.20
1.19	2.09	14.38	1.18	2.09	14.39	1.18	2.09	14.39	1.17	2.09	14.40	1.17	2.08	14.40	1.17	2.08	14.41
1.23	2.00	14.63	1.22	2.00	14.63	1.22	1.99	14.64	1.21	1.99	14.64	1.20	1.99	14.65	1.20	1.99	14.65
1.27	1.95	14.77	1.26	1.95	14.77	1.26	1.95	14.78	1.25	1.95	14.78	1.24	1.95	14.79	1.24	1.95	14.79
1.32	1.93	14.86	1.31	1.93	14.87	1.30	1.93	14.87	1.29	1.93	14.88	1.28	1.93	14.88	1.28	1.93	14.88
1.36	1.92	14.93	1.35	1.92	14.93	1.35	1.91	14.94	1.34	1.91	14.94	1.33	1.91	14.95	1.32	1.91	14.95
1.41	1.91	14.98	1.40	1.91	14.98	1.39	1.91	14.99	1.38	1.90	14.99	1.37	1.90	15.00	1.36	1.90	15.00
1.46	1.90	15.02	1.45	1.90	15.02	1.44	1.90	15.03	1.43	1.90	15.03	1.42	1.90	15.04	1.41	1.90	15.04
1.74	1.89	15.13	1.72	1.89	15.13	1.70	1.89	15.14	1.68	1.89	15.14	1.66	1.89	15.15	1.64	1.89	15.15
-	-	-	1.43	5.96	9.98	1.38	5.52	10.58	1.36	5.34	10.82	1.34	5.22	10.99	1.32	5.13	11.12
1.38	4.54	12.07	1.37	4.51	12.13	1.36	4.48	12.18	1.35	4.45	12.23	1.33	4.43	12.27	1.32	4.41	12.32
1.41	4.23	12.67	1.40	4.22	12.70	1.38	4.20	12.74	1.37	4.19	12.77	1.36	4.17	12.80	1.35	4.16	12.83
1.49	4.00	13.26	1.48	3.99	13.28	1.47	3.98	13.31	1.45	3.97	13.33	1.44	3.96	13.36	1.43	3.96	13.38
1.59	3.90	13.57	1.57	3.90	13.59	1.56	3.89	13.61	1.54	3.88	13.63	1.53	3.88	13.66	1.51	3.87	13.68
1.70	3.85	13.76	1.68	3.85	13.78	1.66	3.84	13.81	1.64	3.84	13.83	1.62	3.84	13.85	1.61	3.83	13.87
1.81	3.83	13.90	1.79	3.82	13.92	1.77	3.82	13.94	1.75	3.82	13.96	1.72	3.81	13.98	1.70	3.81	14.00
1.93	3.81	13.99	1.90	3.81	14.02	1.88	3.80	14.04	1.85	3.80	14.06	1.83	3.80	14.08	1.81	3.79	14.10
2.05	3.80	14.07	2.02	3.80	14.09	1.99	3.79	14.11	1.96	3.79	14.13	1.94	3.79	14.15	1.91	3.78	14.17
2.69	3.78	14.26	2.65	3.77	14.28	2.60	3.77	14.31	2.56	3.77	14.33	2.52	3.77	14.35	2.47	3.77	14.37
-	-	-	-	-	-	-	-	-	1.62	7.46	9.74	1.57	7.11	9.58	1.54	6.93	9.89
1.68	6.63	10.44	1.66	6.54	10.62	1.63	6.46	10.77	1.61	6.40	10.90	1.58	6.34	11.02	1.56	6.29	11.14
1.80	6.05	11.73	1.77	6.02	11.81	1.75	5.99	11.89	1.73	5.97	11.97	1.70	5.94	12.04	1.68	5.92	12.11
1.96	5.88	12.27	1.93	5.86	12.34	1.90	5.84	12.40	1.87	5.82	12.47	1.85	5.81	12.53	1.82	5.79	12.59
2.13	5.80	12.58	2.10	5.78	12.64	2.07	5.77	12.71	2.04	5.76	12.77	2.01	5.74	12.83	1.98	5.73	12.88
2.32	5.75	12.78	2.28	5.74	12.85	2.24	5.73	12.91	2.21	5.72	12.97	2.17	5.71	13.02	2.14	5.70	13.08
2.51	5.72	12.93	2.47	5.71	12.99	2.43	5.71	13.05	2.39	5.70	13.11	2.35	5.69	13.16	2.31	5.68	13.22
2.71	5.71	13.03	2.66	5.70	13.09	2.61	5.69	13.15	2.57	5.68	13.21	2.52	5.68	13.27	2.48	5.67	13.32
3.75	5.67	13.29	3.68	5.67	13.35	3.61	5.66	13.41	3.54	5.66	13.47	3.46	5.65	13.53	3.39	5.65	13.58
-	-	-	-	-	-	-	-	-	-	-	-	1.91	9.21	7.90	1.82	8.71	8.83
2.17	8.34	9.60	2.12	8.21	9.92	2.07	8.11	10.17	2.03	8.03	10.39	1.99	7.97	10.59	1.96	7.91	10.76
2.37	7.94	10.67	2.33	7.88	10.86	2.28	7.83	11.03	2.24	7.79	11.19	2.20	7.75	11.33	2.16	7.72	11.47
2.62	7.79	11.17	2.56	7.75	11.33	2.51	7.72	11.48	2.47	7.69	11.62	2.42	7.66	11.75	2.38	7.64	11.87
2.87	7.72	11.48	2.82	7.68	11.62	2.76	7.66	11.76	2.71	7.63	11.89	2.66	7.61	12.01	2.61	7.59	12.13
3.14	7.67	11.68	3.08	7.65	11.82	3.02	7.62	11.95	2.96	7.60	12.08	2.90	7.59	12.20	2.84	7.57	12.31
3.42	7.65	11.82	3.35	7.62	11.96	3.28	7.60	12.09	3.22	7.58	12.21	3.15	7.57	12.33	3.09	7.56	12.44
4.86	7.59	12.16	4.76	7.57	12.29	4.66	7.56	12.41	4.56	7.55	12.53	4.46	7.54	12.64	4.36	7.53	12.76
-	-	-	-	-	-	-	-	-	2.43	10.54	7.73	2.33	10.16	8.63	2.26	9.98	9.14
-	-	-	2.80	10.17	8.61	2.71	9.96	9.19	2.64	9.83	9.61	2.57	9.74	9.95	2.51	9.66	10.24
3.17	9.98	9.13	3.08	9.84	9.60	3.00	9.73	9.96	2.93	9.66	10.27	2.86	9.60	10.54	2.80	9.55	10.79
3.49	9.80	9.71	3.40	9.71	10.07	3.32	9.63	10.38	3.24	9.58	10.65	3.17	9.53	10.90	3.10	9.50	11.12
3.83	9.71	10.04	3.74	9.64	10.36	3.65	9.58	10.64	3.56	9.53	10.90	3.48	9.50	11.13	3.40	9.47	11.35
4.19	9.66	10.26	4.08	9.60	10.56	3.98	9.54	10.83	3.89	9.50	11.07	3.80	9.47	11.29	3.72	9.45	11.50
6.02	9.56	10.74	5.88	9.51	11.00	5.73	9.48	11.24	5.60	9.45	11.47	5.47	9.43	11.68	5.34	9.41	11.87
-	-	-	-	-	-	-	-	-	-	-	-	3.00	11.89	7.99	2.90	11.67	8.75
-	-	-	-	-	-	3.63	12.29	6.88	3.44	11.77	8.39	3.33	11.60	9.06	3.24	11.49	9.55
-	-	-	-	-	-	3.93	11.78	8.35	3.80	11.60	9.06	3.70	11.49	9.57	3.60	11.41	10.00
-	-	-	4.49	11.90	7.99	4.32	11.65	8.86	4.19	11.52	9.43	4.08	11.43	9.89	3.98	11.37	10.28
-	-	-	4.89	11.75	8.46	4.73	11.57	9.16	4.59	11.47	9.67	4.47	11.40	10.10	4.36	11.35	10.47
7.31	11.72	8.56	7.05	11.55	9.26	6.85	11.45	9.78	6.66	11.38	10.20	6.49	11.33	10.58	6.33	11.30	10.91
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.71	13.51	7.95
-	-	-	-	-	-	-	-	-	-	-	-	4.27	13.57	7.69	4.13	13.47	8.64
-	-	-	-	-	-	-	-	-	4.93	13.82	6.80	4.71	13.44	8.26	4.57	13.30	9.03
-	-	-	-	-	-	-	-	-	5.37	13.61	7.55	5.17	13.38	8.59	5.02	13.26	9.28
-	-	-	-	-	-	8.10	13.66	7.34	7.77	13.39	8.53	7.54	13.27	9.26	7.33	13.20	9.84
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.70	15.49	6.51
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.18	15.31	7.35
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.69	15.23	7.78
-	-	-	-	-	-	-	-	-	-	-	-	8.63	15.30	7.42	8.34	15.12	8.56
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.38	17.11	6.81

TABLE II - OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES - Continued

(w) $\epsilon_p = 15°$; $\Gamma = 30°$; $\epsilon_r = 8.90°$

				$\gamma_e = \gamma_\infty = 1.67$								$\gamma_e = \gamma_\infty = 1.40$							
α, deg	δ_N, deg	ϵ_e, deg	M_∞	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b	θ_s, deg	θ, deg	M_n	δ, deg	Δ, deg	$\frac{p_b}{p_\infty}$	$\frac{\rho_\infty}{\rho_b}$	M_b
2	6.12	16.48	5.0	16.14	13.49	1.17	2.60	14.44	1.45	.8017	4.59	16.26	13.22	1.14	2.53	14.55	1.36	.8039	4.74
			6.0	16.36	11.18	1.16	2.14	15.13	1.44	.8048	5.53	16.41	10.99	1.14	2.12	15.17	1.36	.8037	5.70
			7.0	16.41	9.68	1.18	1.99	15.42	1.48	.7919	6.43	16.44	9.51	1.16	1.97	15.44	1.39	.7898	6.64
			8.0	16.43	8.59	1.19	1.91	15.59	1.54	.7755	7.30	16.45	8.43	1.17	1.90	15.61	1.44	.7725	7.56
			10.0	16.45	7.11	1.24	1.83	15.79	1.66	.7404	8.98	16.46	6.95	1.21	1.83	15.81	1.54	.7356	9.36
			12.0	16.46	6.14	1.28	1.80	15.91	1.81	.7059	10.59	16.47	5.98	1.25	1.79	15.93	1.66	.6992	11.11
			14.0	16.46	5.46	1.33	1.78	15.99	1.97	.6733	12.13	16.47	5.30	1.29	1.77	16.01	1.79	.6845	12.82
			16.0	16.46	4.96	1.38	1.77	16.05	2.14	.6429	13.61	16.47	4.80	1.34	1.76	16.06	1.92	.6319	14.48
			18.0	16.46	4.57	1.43	1.76	16.09	2.32	.6148	15.03	16.47	4.41	1.38	1.75	16.11	2.07	.6014	16.10
			20.0	16.46	4.27	1.49	1.75	16.12	2.52	.5888	16.38	16.47	4.11	1.43	1.75	16.14	2.23	.5731	17.68
			30.0	16.47	3.40	1.78	1.74	16.22	3.71	.4876	22.28	16.47	3.22	1.69	1.74	16.23	3.15	.4599	24.90
4	12.85	15.76	6.0	14.63	13.77	1.43	5.16	11.56	2.30	.6181	4.94	15.24	12.86	1.34	4.63	12.31	1.91	.6338	5.37
			7.0	15.38	11.54	1.40	4.17	13.06	2.20	.6332	5.86	15.55	11.06	1.34	4.06	13.27	1.94	.6286	6.27
			8.0	15.53	10.31	1.43	3.91	13.57	2.31	.6164	6.63	15.64	9.90	1.37	3.85	13.71	2.04	.6076	7.12
			10.0	15.63	8.76	1.52	3.70	14.08	2.65	.5742	8.05	15.69	8.37	1.46	3.66	14.19	2.31	.5597	8.74
			12.0	15.66	7.79	1.63	3.61	14.35	3.06	.5339	9.33	15.72	7.41	1.55	3.59	14.45	2.63	.5142	10.25
			14.0	15.68	7.14	1.74	3.57	14.53	3.56	.4983	10.48	15.73	6.76	1.65	3.55	14.62	3.00	.4736	11.68
			16.0	15.69	6.67	1.86	3.54	14.64	4.07	.4676	11.53	15.73	6.29	1.75	3.52	14.74	3.41	.4381	13.02
			18.0	15.69	6.33	1.98	3.53	14.73	4.67	.4413	12.48	15.73	5.93	1.86	3.51	14.82	3.87	.4074	14.27
			20.0	15.70	6.06	2.11	3.51	14.79	5.33	.4189	13.33	15.74	5.66	1.97	3.50	14.89	4.37	.3808	15.43
			30.0	15.71	5.35	2.80	3.49	14.96	9.53	.3467	16.44	15.74	4.92	2.57	3.48	15.06	7.56	.2925	20.11
6	20.10	15.27	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			8.0	14.13	12.87	1.78	6.53	10.42	3.72	.4867	5.83	14.82	11.70	1.62	5.99	11.40	2.90	.4833	6.65
			10.0	14.82	10.78	1.87	5.72	11.99	4.12	.4652	7.12	15.07	10.02	1.74	5.56	12.40	3.37	.4419	8.10
			12.0	14.96	9.76	2.03	5.51	12.53	4.93	.4319	8.13	15.14	9.06	1.89	5.41	12.87	4.00	.4001	9.39
			14.0	15.02	9.12	2.22	5.42	12.84	5.91	.4031	8.98	15.17	8.43	2.05	5.34	13.14	4.75	.3644	10.54
			16.0	15.06	8.68	2.41	5.36	13.03	7.04	.3794	9.69	15.19	7.99	2.22	5.30	13.33	5.61	.3350	11.57
			18.0	15.08	8.36	2.62	5.33	13.17	8.32	.3602	10.30	15.20	7.67	2.40	5.28	13.45	6.57	.3109	12.49
			20.0	15.09	8.13	2.83	5.31	13.27	9.75	.3446	10.81	15.20	7.44	2.59	5.26	13.55	7.65	.2911	13.30
			30.0	15.12	7.53	3.93	5.27	13.51	19.10	.2994	12.45	15.22	6.82	3.56	5.23	13.79	14.64	.2323	16.16
8	27.70	15.03	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			10.0	-	-	-	-	-	-	-	-	14.42	12.05	2.09	7.68	10.04	4.92	.3580	7.39
			12.0	13.95	12.43	2.58	7.85	9.66	8.09	.3633	6.86	14.69	10.95	2.28	7.33	10.97	5.89	.3271	8.50
			14.0	14.31	11.54	2.80	7.49	10.49	9.56	.3464	7.56	14.78	10.31	2.51	7.19	11.42	7.15	.2995	9.42
			16.0	14.45	11.04	3.06	7.35	10.89	11.50	.3307	8.07	14.83	9.88	2.75	7.12	11.70	8.63	.2771	10.20
			18.0	14.52	10.71	3.35	7.27	11.14	13.75	.3178	8.47	14.85	9.59	3.00	7.08	11.89	10.32	.2594	10.86
			20.0	14.57	10.48	3.64	7.22	11.30	16.30	.3076	8.80	14.87	9.37	3.26	7.05	12.02	12.20	.2453	11.42
			30.0	14.65	9.92	5.17	7.12	11.68	33.14	.2790	9.73	14.91	8.83	4.61	7.00	12.34	24.58	.2060	13.18
10	35.42	15.04	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	14.36	12.56	3.04	9.29	8.98	10.64	.2566	8.28
			16.0	-	-	-	-	-	-	-	-	14.54	12.04	3.34	9.09	9.55	12.82	.2415	8.90
			18.0	-	-	-	-	-	-	-	-	14.63	11.71	3.65	8.99	9.88	15.41	.2291	9.39
			20.0	-	-	-	-	-	-	-	-	14.68	11.49	3.98	8.94	10.10	18.34	.2192	9.79
			30.0	-	-	-	-	-	-	-	-	14.78	10.96	5.70	8.83	10.58	37.79	.1923	10.93
12	42.99	15.31	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	14.51	13.51	7.01	10.98	7.70	57.11	.1836	9.02
14	50.20	15.82	14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	56.87	16.56	18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE II.- OBLIQUE-SHOCK SOLUTIONS FOR SWEPT LEADING EDGES- Concluded

(w) $\epsilon_p = 15°$; $\Gamma = 30°$; $\epsilon_r = 8.90°$ - Concluded

$\gamma_e = 1.35$			$\gamma_e = 1.30$			$\gamma_e = 1.25$			$\gamma_e = 1.20$			$\gamma_e = 1.15$			$\gamma_e = 1.10$		
M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg	M_n	δ, deg	Δ, deg
1.14	2.51	14.57	1.14	2.50	14.58	1.13	2.49	14.60	1.13	2.48	14.62	1.12	2.47	14.63	1.12	2.46	14.65
1.14	2.11	15.18	1.14	2.11	15.18	1.13	2.11	15.19	1.13	2.10	15.20	1.13	2.10	15.20	1.12	2.09	15.21
1.15	1.97	15.45	1.15	1.97	15.46	1.15	1.97	15.46	1.14	1.96	15.46	1.14	1.96	15.47	1.13	1.96	15.47
1.17	1.90	15.61	1.16	1.90	15.62	1.16	1.89	15.62	1.16	1.89	15.63	1.15	1.89	15.63	1.15	1.89	15.64
1.21	1.82	15.81	1.20	1.82	15.82	1.20	1.82	15.82	1.19	1.82	15.82	1.19	1.82	15.83	1.18	1.82	15.83
1.25	1.79	15.93	1.24	1.79	15.94	1.23	1.79	15.94	1.23	1.79	15.94	1.22	1.79	15.94	1.22	1.79	15.95
1.29	1.77	16.01	1.28	1.77	16.01	1.27	1.77	16.02	1.27	1.77	16.02	1.26	1.77	16.02	1.25	1.77	16.03
1.33	1.76	16.07	1.32	1.76	16.07	1.31	1.76	16.07	1.31	1.76	16.08	1.30	1.76	16.08	1.29	1.76	16.08
1.38	1.75	16.11	1.37	1.75	16.11	1.36	1.75	16.12	1.35	1.75	16.12	1.34	1.75	16.12	1.33	1.75	16.13
1.42	1.75	16.14	1.41	1.75	16.15	1.40	1.75	16.15	1.39	1.75	16.15	1.38	1.75	16.16	1.37	1.75	16.16
1.67	1.74	16.24	1.65	1.74	16.24	1.64	1.74	16.24	1.62	1.74	16.25	1.60	1.74	16.25	1.59	1.74	16.25
1.32	4.58	12.39	1.31	4.53	12.46	1.30	4.49	12.53	1.29	4.45	12.59	1.28	4.42	12.65	1.27	4.38	12.70
1.33	4.04	13.30	1.32	4.02	13.34	1.31	4.01	13.37	1.31	3.99	13.40	1.30	3.98	13.43	1.29	3.96	13.46
1.36	3.83	13.74	1.35	3.82	13.76	1.35	3.81	13.79	1.34	3.80	13.81	1.33	3.80	13.83	1.32	3.79	13.86
1.44	3.66	14.21	1.43	3.65	14.23	1.42	3.65	14.25	1.41	3.64	14.27	1.40	3.63	14.29	1.39	3.63	14.30
1.53	3.58	14.47	1.52	3.58	14.49	1.51	3.57	14.51	1.49	3.57	14.52	1.48	3.57	14.54	1.47	3.56	14.56
1.63	3.54	14.64	1.61	3.54	14.66	1.60	3.54	14.67	1.58	3.53	14.69	1.57	3.53	14.71	1.55	3.53	14.72
1.73	3.52	14.76	1.71	3.52	14.77	1.69	3.51	14.79	1.68	3.51	14.81	1.66	3.51	14.82	1.64	3.51	14.84
1.84	3.51	14.84	1.82	3.50	14.86	1.79	3.50	14.87	1.77	3.50	14.89	1.75	3.50	14.91	1.73	3.49	14.92
1.95	3.50	14.91	1.92	3.49	14.92	1.90	3.49	14.94	1.87	3.49	14.96	1.85	3.49	14.97	1.83	3.49	14.99
2.53	3.48	15.08	2.49	3.48	15.10	2.45	3.47	15.11	2.41	3.47	15.13	2.37	3.47	15.15	2.34	3.47	15.16
1.60	6.73	10.69	1.56	6.54	10.40	1.54	6.41	10.62	1.51	6.31	10.80	1.49	6.22	10.95	1.47	6.15	11.08
1.60	5.93	11.51	1.58	5.88	11.61	1.56	5.84	11.70	1.54	5.80	11.79	1.52	5.77	11.87	1.51	5.73	11.95
1.72	5.53	12.47	1.70	5.51	12.53	1.68	5.49	12.59	1.66	5.48	12.65	1.64	5.46	12.70	1.62	5.44	12.75
1.86	5.39	12.92	1.84	5.38	12.97	1.82	5.37	13.02	1.79	5.36	13.07	1.77	5.34	13.12	1.75	5.33	13.17
2.02	5.33	13.19	1.99	5.32	13.24	1.97	5.31	13.29	1.94	5.30	13.34	1.91	5.29	13.38	1.88	5.28	13.43
2.19	5.29	13.37	2.16	5.28	13.42	2.13	5.27	13.47	2.09	5.27	13.52	2.06	5.26	13.56	2.03	5.25	13.61
2.37	5.27	13.50	2.33	5.26	13.55	2.29	5.25	13.60	2.25	5.25	13.64	2.22	5.24	13.69	2.18	5.23	13.73
2.55	5.25	13.60	2.50	5.25	13.64	2.46	5.24	13.69	2.42	5.23	13.74	2.38	5.23	13.78	2.34	5.22	13.83
3.50	5.22	13.84	3.43	5.22	13.88	3.36	5.21	13.93	3.30	5.21	13.98	4.24	5.21	14.02	3.17	5.20	14.07
-	-	-	-	-	-	-	-	-	1.83	8.34	8.71	1.77	8.06	9.22	1.73	7.90	9.56
2.04	7.58	10.28	2.00	7.50	10.48	1.97	7.43	10.65	1.93	7.38	10.81	1.90	7.33	10.96	1.87	7.28	11.09
2.24	7.28	11.12	2.20	7.24	11.26	2.16	7.20	11.39	2.12	7.17	11.51	2.08	7.14	11.62	2.05	7.11	11.73
2.46	7.16	11.55	2.41	7.13	11.67	2.37	7.10	11.79	2.33	7.08	11.90	2.29	7.06	12.00	2.25	7.04	12.10
2.69	7.09	11.82	2.64	7.07	11.93	2.60	7.05	12.04	2.55	7.03	12.15	2.50	7.01	12.25	2.46	7.00	12.34
2.94	7.06	12.00	2.88	7.04	12.11	2.83	7.02	12.22	2.78	7.00	12.32	2.72	6.99	12.42	2.67	6.98	12.51
3.19	7.03	12.13	3.13	7.01	12.24	3.07	7.00	12.34	3.01	6.98	12.44	2.95	6.97	12.54	2.89	6.96	12.63
4.51	6.98	12.45	4.41	6.97	12.55	4.32	6.96	12.65	4.23	6.95	12.75	4.14	6.94	12.84	4.05	6.94	12.93
-	-	-	-	-	-	-	-	-	2.28	9.62	8.13	2.21	9.38	8.71	2.15	9.23	9.11
2.71	9.54	8.31	2.62	9.30	8.91	2.55	9.16	9.32	2.48	9.06	9.64	2.43	8.98	9.92	2.38	8.92	10.16
2.95	9.14	9.39	2.88	9.04	9.72	2.81	8.96	10.01	2.75	8.90	10.25	2.69	8.85	10.48	2.63	8.81	10.68
3.25	9.00	9.87	3.17	8.92	10.15	3.10	8.87	10.39	3.03	8.82	10.61	2.97	8.78	10.82	2.90	8.75	11.01
3.56	8.92	10.16	3.48	8.86	10.43	3.40	8.82	10.64	3.32	8.78	10.85	3.25	8.75	11.04	3.18	8.72	11.22
3.89	8.87	10.36	3.79	8.82	10.60	3.71	8.78	10.81	3.62	8.75	11.01	3.54	8.72	11.20	3.47	8.70	11.38
5.57	8.79	10.81	5.43	8.75	11.02	5.31	8.72	11.21	5.19	8.70	11.40	5.07	8.68	11.57	4.95	8.67	11.74
-	-	-	-	-	-	-	-	-	-	-	-	2.83	11.05	7.48	2.73	10.82	8.22
-	-	-	-	-	-	3.38	11.27	6.89	3.22	10.88	8.03	3.12	10.72	8.62	3.04	10.61	9.07
-	-	-	3.85	11.25	6.94	3.67	10.85	8.11	3.55	10.70	8.70	3.45	10.60	9.15	3.37	10.53	9.53
-	-	-	4.16	10.91	7.92	4.02	10.72	8.59	3.90	10.61	9.08	3.80	10.54	9.47	3.71	10.48	9.82
4.74	11.09	7.38	4.53	10.79	8.33	4.39	10.65	8.89	4.27	10.56	9.32	4.16	10.50	9.69	4.06	10.45	10.01
6.72	10.74	8.53	6.51	10.61	9.07	6.33	10.53	9.49	6.16	10.48	9.85	6.01	10.44	10.17	5.86	10.41	10.47
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.49	12.57	6.84
-	-	-	-	-	-	-	-	-	-	-	-	4.01	12.62	6.66	3.86	12.34	7.71
-	-	-	-	-	-	-	-	-	-	-	-	4.39	12.43	7.40	4.25	12.27	8.17
-	-	-	-	-	-	-	-	-	-	-	-	4.81	12.34	7.79	4.66	12.23	8.45
-	-	-	-	-	-	-	-	-	5.30	12.60	6.71	6.97	12.22	8.53	6.78	12.15	9.06
-	-	-	-	-	-	7.50	12.60	6.74	7.19	12.33	7.85	-	-	-	4.88	14.30	5.48
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.31	14.11	6.32
-	-	-	-	-	-	-	-	-	-	-	-	8.02	14.17	6.04	7.72	13.93	7.37

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